TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

MECHANICAL PROPERTIES OF TEXTILE FIBERS. PART 3. LONGITUDINAL STRESS AND STRAIN AND LATERAL STRAIN. K. Higuchi, H. Takai, and R. Konishi. J. Textile Machy. Soc. Japan 13, No. 10: 704-709 (1960). In Japanese (English summary). Through BCIRA 40: 4805 (1960).
The decrease in cross-sectional area of textile fibers (nylon, polyvinyl chloride, polyethylene) due to longitudinal extension was observed and Poisson's ratio was calculated. Tensile load was also observed and the strict stress-strain diagram calculated. The results are discussed. Young's logarithmic modulus is recommended as the elastic constant up to high extension. (See abstr. 2236/60 for previous part.) (870)

TEXTILE FIBER END USE SURVEY: 1949-1959. Textile Organon 32: 1-7 (Jan. 1961).
Data are given on 72 end uses of cotton, wool, and manmade fibers annually for the six years 1954-1959. It is to be considered as an interim report on 1959 activity in end uses for which more or less reliable data are available. Copies are available from the Textile Economics Bureau, Inc., 10 E. 40th St., New York 16, N.Y. at 40¢ each. (871)

EFFECT OF WEATHERING ON THE PROPERTIES OF VARIOUS TEXTILE FIBERS. J. Lünenschloss and H. Stegherr. Textil-Praxis 15, No. 9: 931-939 (1960). In German. Through BCIRA 40: 4555 (1960).
The materials used for the weathering experiments carried out at the German Research Institute for the Textile Industry (Reutlingen) are listed, the experiments are described and the effects on strength and elongation of the individual fibrous materials are given in diagrams as a function of the exposure time. (872)

MOISTURE REGAINS OF ACRILAN 16, ACRILAN 1656, AND OTHER TEXTILE FIBERS. Chemstrand Corp., Decatur, Ala. Feb. 1961. 6 p. Bull. No. AP-17. (873)

Natural fibers A1

OBSERVATIONS ON THE CHEMICAL NATURE OF BETA- AND GAMMA-CELLULOSES OF JUTE. A. B. Sen Gupta, A. Roy, and W. G. Macmillan (Indian Jute Mills Assoc. Research Inst.). (Letter to the editor). J. Sci. Ind. Research (India) 19B: 514-516 (Dec. 1960).
Beta-cellulose was isolated from jute by acidification of the sodium hydroxide extract of holocellulose and gamma-cellulose by subsequent addition of alcohol to the filtrate. Examination of these two products indicates that beta-cellulose is mainly composed of hemicellulose and allied to gamma-cellulose in chemical nature, though it may be associated with certain amounts of cellulose degradation products. (874)

1960-61 COTTON CROP. E. E. Berkley and S. C. Mayne, Jr. (Anderson, Clayton & Co.). Textile Bull. 87: 35-41 (Jan. 1961).
Following a discussion of the treatments that cotton receives in harvesting, ginning, and manufacturing and how they affect yarn and fabric quality, the current crop is discussed in detail. The authors point out that mills can anticipate lower yarn strengths, more ends-down and more warp breaks from the current crop, and that more careful blending will be a necessity. (875)

CENTRAL BELT'S COTTON CROP. F. L. Gerdes. Textile World 111: 57 (Jan. 1961).
Fiber and spinning properties of the 1960 crop are compared with the 1955-59 average. (876)

SOUTHEASTERN COTTON (1960). F. L. Gerdes. Textile World 111: 112 (Feb. 1961).
USDA fiber and spinning tests on early-season cotton indicate properties similar to those of the 1959 harvest. (877)

RELATIONSHIP BETWEEN COTTON FIBER DEVELOPMENT AND FIBER PROPERTIES. L. E. Hessler (Texas Technol. Coll.). Textile Research J. 31: 38-43 (Jan. 1961).
Eighteen strains of cotton with widely different fiber properties were harvested to give early- and late-season samples. Dimensional, physical, and chemical properties were determined. A significant correlation coefficient between many of the fiber properties shows the relationship of these properties as influenced by environmental conditions. 5 refs. (878)

TEXAS GINNING MOISTURE STUDY: PRELIMINARY REPORT COVERING THE 1959-1960 SEASON. Cotton Economic Research, Univ. of Texas, Austin, Texas. 1960. 14 p. Research report no. 54.
The purpose of the study was to determine at what levels of moisture content the Texas crop is processed, to correlate lint moisture content during ginning with spinning performance, and to correlate weather conditions during ginning with ginning and spinning performance. (879)

SUPERCONTRACTION AND SOLUBILITY OF ALKALI TREATED WOOL. K. J. Whiteley (Univ. New South Wales). (Letter to the editor). Textile Research J. 31: 82-83 (Jan. 1961). (880)

YOUNG'S MODULUS OF KERATIN IN COMPRESSION. E. F. Denby (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). Textile Research J. 31: 69-70 (Jan. 1961).
An account is given of an attempt to measure the Young's modulus in compression or the lateral compressional properties of horsehair and to explain them in terms of a previously proposed 2-phase model for keratin fibers (see abstr. 1598/59). 6 refs. (881)

COTTON MERCHANDISING--COSTS, PRACTICES, AND PROBLEMS. B. B. Crumley and M. R. Cooper. Cotton Economic Research, Univ. of Texas, and Textile Research Labs., Texas Technol. College, Austin, Texas, in cooperation with U.S. Agri. Mktg. Serv. 1960. 27 p. (882)

FELTING INVESTIGATIONS. PART 2. RELATIONSHIP BETWEEN WOOL FIBER CRIMP AND RATE OF FELTING. W. G. Crewther and L. M. Dowling (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 14-18 (Jan. 1961).
Observations of changes in crimp of wool fibers during supercontraction in aqueous solutions have led to a means of modifying the crimp of fibers from a single fleece. Felting studies on such modified fibers have shown that straightening of the wool facilitates felting whereas the imposition of tight coils in the fibers retards felting. 9 refs. (883)

SUPERCONTRACTION OF WOOL IN AQUEOUS LiBr; INHIBITION BY FREE Br_2 AND ITS RELATION TO SULFHYDRYL-DISULFIDE INTERCHANGE. W. G. Crewther and L. M. Dowling (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 31-37 (Jan. 1961).
This paper describes experiments to determine whether or not supercontraction of wool fibers in hot solutions of LiBr is facilitated by interchange reactions between sulfhydryl and disulfide groups and whether or not inhibition of supercontraction by Br_2 in solutions of LiBr is due to oxidation of sulfhydryl groups and consequent limitation of the interchange reaction. 13 refs. (884)

SHAPE AND REELING ABILITY OF SILK COCOONS. ANALYTICAL STUDY OF COCOON SHAPE. E. Sebestyen and F. Wood. Industrie Textile: 687-691 (Oct. 1960). In French. Through BCIRA 40: 4711 (1960).
The effect of cocoon shape on the properties and yield of the silk is studied, and a parameter is proposed for the characterization of cocoon shape and classification of the cocoons according to ease of reeling. (885)

MOISTURE REGAIN OF RAW COTTON, COTTON YARN AND COTTON FABRIC AT 65 PERCENT RH AND 80° F. R. L. N. Iyengar and J. Prakash (Indian Central Cotton Comm.). Indian Textile J. 71: 81-93, 106 (Nov. 1960).
Moisture regain data have been collected for a large number of Indian cottons of widely varying fineness, and of various types of yarns and fabrics manufactured in India. The raw cotton samples were tested for regain both in the original state and after cleaning in Shirley Analyzer and the fabrics both in the original state and after desizing. The effects of fineness, yarn count, and fabric structure, as well as of cleaning raw cotton by Shirley Analyzer and of various treatments of yarns and fabrics are discussed in the light of statistical evidence deduced from the results. (886)

Manmade fibers A2

TRADEMARK GLOSSARY OF MANUFACTURED FIBERS. Am. Viscose Corp., Technical Service Dept., Product Information Div., Marcus Hook, Pa. 1960. 31 p. G-13. Free. (887)

NOTE ON THE COLD DRAWING OF NYLON 66. R. G. Quynn (Celanese Corp.). J. Appl. Polymer Sci. 4: 253-254 (Sept./Oct. 1960). (888)

MANUAL OF MANMADE FIBERS: MANUFACTURE, PROPERTIES, IDENTIFICATION, BIBLIOGRAPHY. C. Z. Carroll-Porczynski. Astex Pub. Co., 22/23 North St., Guildford, Surrey, England. 1960. 304 p. 29s. [$4.06].
Contents: World production and classification of textile fibers; Natural polymer manmade fibers; Synthetic polymer manmade fibers; Inorganic fibers; Textured yarns; Identification; Photomicrographs; X-ray diffraction photographs; Bibliography, p. 241-280; World manmade fiber producers; Index. (889)

NEW MANMADE FIBERS. PART 3. POLYTHENE AND POLYPROPYLENE FIBERS. A. J. Hall. Fibres and Plastics 22: 5-9 (Jan. 1961).
Production methods and properties are reviewed. 8 refs. (890)

NEW MANMADE FIBERS. PART 4. VINYLIDENE COPOLYMERS. A. J. Hall. Fibres and Plastics 22: 52-54 (Feb. 1961).
The structure, manufacture, and properties of Saran (vinylidene chloride/vinyl chloride copolymer), Zefran (vinylidene chloride/acrylonitrile copolymer), and Darvan (vinyl acetate/vinylidene dinitrile copolymer) are described. Alternative methods of using vinylidene dinitrile for fiber copolymer formation are also mentioned. (891)

INTERFACIAL POLYCONDENSATION: ANOTHER WAY TO MAKE FIBER. J. W. S. Hearle. Skinner's Silk & Rayon Record 35: 26-30 (Jan. 1961).
In interfacial polycondensation, two reacting chemicals are dissolved respectively in two immiscible solvents, so that separate layers are formed. At the interface between the two solutions, the chemicals react and the polymer is formed. Some examples of the classes of polymers that can be made by this technique are given. (892)

TECHNOLOGICAL EXPERIENCES WITH POLYACRYLONITRILE FIBER TYPES. L. Rudolph. Chemiefasern 10, No. 9: 607-610 (1960). In German. Through BCIRA 40: 4512 (1960).
The processing properties of three types of polyacrylonitrile fibers (100% pure) are investigated, with special reference to their dyeability as compared with viscose rayon staple fibers. It was found that both the processing and dyeing properties are improved only in polyacrylonitrile copolymers; even spin-dyeing of the pure polyacrylonitrile fiber does not give completely satisfactory results. (893)

ACRILAN ACRYLIC FIBER STORY. Chemstrand Corp. Hosiery Trade J. 68: 113-135 (Jan. 1961).
Acrilan as a knitting yarn, p. 115-117; Acrilan in knitted outerwear, p. 119-121; Acrilan in jersey fleece and knitted pile fabrics, p. 123, 127; Dyeing and finishing of Acrilan hosiery, knitwear, and fabrics, p. 129-135. (894)

STUDIES ON THE FINE STRUCTURE OF POLYAMIDE FIBERS. T. Ogihara and T. Yurugi. Bull. Textile Research Inst. (Japan) No. 54: 1-4 (1960). In Japanese (English summary). Through BCIRA 40: 4565 (1960).
The fine structures of polyazine (copolymer of hexamethylenediamine with equimolar dimethyl isocinchomeronate and dimethyl adipate) and nylon 66 fibers were compared by measurements of birefringence and density on fibers drawn at 100° C and heat setting under various conditions. They appear to be similar. (895)

WHERE ORLON STANDS TODAY. Modern Textiles Mag. 42: 39-45 (Feb. 1961).
Orlon's background, by G. S. Demme, p. 39-40; How markets are created for Orlon, by C. Thompson, p. 40-42; Principles of engineered Orlon fibers, by E. M. Hicks, Jr., p. 43-45. (896)

ORLON TYPE 25 ACRYLIC FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. OR-106 (replaces Bull. NP-7). Free.
Yarn characteristics and bleaching and dyeing procedures are discussed. (897)

ORLON TYPE 72 ACRYLIC STAPLE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 3 p. Bull. NP-17. Free. (898)

GLASS: HANDLED WITH CARE. J. Ritchie (Fothergill & Harvey Ltd). Skinner's Silk & Rayon Record 35: 125-127 (Feb. 1961).
The basic properties of glass fiber filaments, their major applications, and precautions necessary in their processing are summarized. (899)

EFFECT OF REPEATED CONSTANT ELONGATION UPON THE TENSILE MECHANICAL PROPERTIES OF TEXTILE FIBERS. Y. Yamaguchi and Y. Oyanagi. J. Textile Machy. Soc. Japan 13, No. 9: 637-643 (1960). In Japanese (English summary). Through BCIRA 40: 4040 (1960).
Properties such as stress behavior under repeated constant elongation and stress-strain and stress relaxation behaviors after repeated constant elongation were investigated on viscose rayon and nylon fibers. (900)

MEASUREMENT OF CRYSTALLINITY IN DRAWN POLYETHYLENE TEREPHTHALATE FIBERS BY X-RAY DIFFRACTION. G. Farrow and D. Preston. Brit. J. Appl. Phys. 11, No. 8: 353-358 (1960). Through BCIRA 40: 4041 (1960).
In the technique described, strictly monochromatic x-ray radiation is used and the diffraction pattern is recorded on a photographic film in an evacuated camera. The results obtained on polyethylene terephthalate show that the crystallinity of the drawn yarns is much lower than expected and that no correlation exists between the crystallinity so determined and that calculated from the density of the yarns. (901)

YARN PRODUCTION B

FIBER CHARACTERISTICS IN COTTON/COTTON BLENDS AND THEIR EFFECT ON THE PROPERTIES OF YARNS AND FABRICS. Centre de Recherches des Industries Textiles de Rouen. Bull. Inst. Textile France No. 89: 39-78 (July/Aug. 1960). In French. Through BCIRA 40: 4811 (1960).
This study deals with the main characteristics of fibers (length and length homogeneity and strength at a clamp distance of 1/8 in.), which should be taken into account when blending cottons, and the methods enabling determination of the mean properties of a blend as a function of its components. (902)

AUTOMATIC MATERIALS HANDLING. Firth Carpet Co. Textile World 111: 52-57 (Feb. 1961).
An integrated system of machine layout and automatic material handling in the Burnsville, N. C. spinning plant for wool carpet yarns is described. (903)

SCIENTIFIC SPINNING. D. Gautier. Industrie Textile: 605-610 (Sept. 1960). In French. Through BCIRA 40: 4728 (1960).
The principles of scientific spinning are discussed, with special reference to the statistical interpretation of cotton fiber diagrams, the causes of irregularities, study of the drafting fields, determination of partial draft values for slivers or rovings, effects of doubling and other variables, and derivation of a formula expressing the instantaneous irregularity of a sliver or roving subjected to several drafting operations and several doublings. The results obtained are summarized. (904)

TWEEDALES & SMALLEY SLIVER TO YARN SPINNING SYSTEM IN MILL PRACTICE. G. D. Chappell. Textile Mfr. 87: 16-19 (Jan. 1961).
Production, quality, and processing costs are compared for the sliver to yarn system and conventional spinning systems. (905)

ELECTROSTATIC CHARGE ON SYNTHETIC YARNS DURING THEIR HANDLING. J. Schneider. Rayonne et Fibres Synthet. No. 10: 1125-1130 (1960). In French. Through BCIRA 40: 4825 (1960).
Means for eliminating static electricity are discussed, with special reference to the increase of yarn conductivity (humidity, application of antistatic agent), increase of the conductivity of the medium in which the yarns are processed (humidification of the air, air ionization, earthing of the machines), and neutralization of the charge by substances producing a certain friction. Methods for measuring electrostatic charges are briefly reviewed. 16 refs. (906)

IMPROVEMENTS IN FIBER LUBRICATION. Textile J. Australia 35: 1064-1067 (Dec. 20, 1960).
The problem of finding a scourless lubricant for processing tufted carpet yarns on the woolen system is reviewed, and the results of preliminary trials on TN6/6 (James Briggs & Sons Ltd) are discussed. (907)

TEXTILE OILS: USE AND EFFECT. R. H. H. Morley. Wool Rev. 34: 18 (Dec. 1960).
The nature, application, and effect of fiber lubricating oils used in the conversion of wool into yarns and fabrics, in recovering wool from rags, and in flock production are discussed. (908)

PROCESSING DU PONT 420 NYLON STAPLE IN BLENDS WITH COTTON FOR USE IN UTILITY GARMENTS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Jan. 1961. 6 p. Bull. N-138 (replaces Bull. N-110). Free.
Processing conditions and machinery settings are given for handling blends of Du Pont 420 nylon staple and cotton on the cotton system. (909)

STORY OF WORSTED YARNS. Nat. Spinning Co., 350 Fifth Ave., New York, N. Y. n. d. 30 p.
Illustrates and describes worsted yarn manufacture from raw material to finished product. (910)

Opening, picking, fiber preparation B1

AUTOMATION OF MIXING IN COTTON SPINNING MILLS. Chemiefasern 10, No. 9: 577-578 (1960). In German. Through BCIRA 40: 4453 (1960).
The automatic bale opening and mixing installation of the Textilmaschinenfabrik Trützschler & Co. is described, and its mechanism illustrated. (911)

Carding and combing B2

AIR FLOW ON A CARD EQUIPPED WITH METALLIC CARD CLOTHING. PART 2. OPENING ACTION IN THE LICKERIN PART. Y. Niitsu and others. J. Textile Machy. Soc. Japan 13, No. 10: 729-736 (1960). In Japanese (English summary). Through BCIRA 40: 4721 (1960).
Increase in lap feeding rate, reduction of lickerin speed, or increase of nozzle setting, reduces the degree of opening, so that the amount of impurity removed at the lickerin is reduced, nep formation between cylinder and flats increases, and the amount of trash removed by the flats is reduced. Increase of lickerin speed not only improves opening action but also increases the effects of centrifugal force and air flow, so that the characteristics of the waste under the lickerin are changed. (912)

INNOVATIONS AND IMPROVEMENTS IN COTTON CARDING. Bull. Inst. Textile France No. 89: 109-124 (July/Aug. 1960). In French. Through BCIRA 40: 4720 (1960).
Improvements and innovations, concerning various cotton card components shown at the 1959 Exhibition in Milan, are reviewed. 44 refs. (913)

USE OF JET AIR FLOW FOR FIBER TRANSFERENCE IN CARDING. PART 1. FUNDAMENTAL EXPERIMENT. S. Yamawaki and D. Shogaki. J. Textile Machy. Soc. Japan 13, No. 10: 737-746 (1960). In Japanese (English summary). Through BCIRA 40: 4722 (1960).
Experiments were made in relation to transference and control of fiber layers between rollers of the card (e.g. worker/cylinder) and to doffing of fiber layers from rollers (e.g. at the doffer). (914)

RECENT DEVELOPMENTS IN WOOL COMBING. H. Needham and W. Parkin. Wool Rev. 34: 16-18 (Jan. 1961).
Recent modifications of the Noble and French comb, investigations on fiber breakage in Noble combing, and methods for maintaining a regular feed on the Noble comb are discussed. (915)

Drawing and roving B3

STARTING SPEEDS PERMISSIBLE FOR DRAWFRAME SLIVERS. E. Schenkel and E. Ott. Textil-Praxis 15, No. 10: 994-1000 (1960). In German. Through BCIRA 40: 4726 (1960).
Experiments carried out on carded and on combed American cottons showed that the problem of false drafts caused by the starting speed on high-speed drawframes does not preclude their use, provided that their construction is correct. In drawframes with a separate roving drive above the cans, there is no danger of false drafts in the case of carded, and a very small probability in the case of combed, material. Without the drive, the danger of true false drafts is considerably greater, especially in combed material. (916)

ROVING CAN SELECTION. D. E. Williams (Nat. Vulcanized Fibre Co.). Textile Inds. 125: 67-69 (Feb. 1961).
The basic types of roving cans available and their features are described to serve as an aid in their selection. (917)

Spinning, winding, twisting B4

YARN TENSION IN RING SPINNING: BOLTON CONFERENCE. Textile Merc. 144: 50-56 (Jan. 13, 1961); 83-91 (Jan. 20, 1961).
Summaries of the following papers are given: Physics of a ballooning thread, by A. E. De Barr; Winding tension, by H. Catling. Abstracts of the following papers are given: Air drag and ring traveler friction in ring spinning, by A. E. de Barr, p. 83-85; Control ring systems and choice of traveler in ring spinning, by F. A. Greenwood, p. 85-91. (918)

TENSION REDUCTION ON RING SPINNING MACHINES. A. Dicthelm. Industrie Textile: 611-614 (Sept. 1960). In French. Through BCIRA 40: 4730 (1960).
The tensions to which the thread is successively subjected (between the grooved rollers and thread guide, between thread guide and traveler, and between traveler and bobbin) are discussed, and the mechanisms and advantages of various tension reducing devices are reviewed. (919)

ERECTION, MAINTENANCE, AND OPERATION OF RING SPINNING MACHINERY. E. Frohnapfel (Howard & Bullough Ltd). Textile Merc. 144: 164-167 (Feb. 3, 1961). (920)

CAVALLA-ROTH DOUBLE APRON SPINNING DRAFTING SYSTEM. R. R. Miller (Dixon Corp.). Textile Bull. 87: 47-49 (Feb. 1961).
The development of the Cavalla-Roth system from comparative tests of the Casablancas and double-apron Roth systems is described. (921)

CONICAL BALLOON-LIMITING DEVICE. P. Dumoulin. Industrie Textile: 625-626 (Sept. 1960). In French. Through BCIRA 40: 4731 (1960).
It has been found that, when using cylindrical balloon-limiting devices, high thread tension differences are produced and thread breakages occur because these limiting devices insufficiently support the balloon even if they have a very long axis. These disadvantages can be eliminated by using the truncated cone limiting device described, which is claimed to reduce the thread tension in the balloon. (922)

INVESTIGATIONS INTO THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. O. König and H. Herdtle. Textil-Praxis 15, No. 10: 1007-1011 (1960). In German. Through BCIRA 40: 4729 (1960).
In continuation of the previous articles (abstr. 4301/60), the author reports results obtained by measuring the friction coefficient between traveler and ring. The measurements were carried out within the specified limits of standard temperature and humidity conditions on various Otra travelers and a Mann spinning ring with an inner diameter and a flange width of 4 mm. The differences between the individual fibrous materials examined are pointed out. (923)

TWIST IN RING SPINNING AND DOUBLING MACHINES. PART 2. ANALYSIS OF TWIST PROPAGATION. K. Kanai, H. Kanai, H. Kamogawa, and T. Sakata. J. Textile Machy. Soc. Japan 13, No. 9: 644-647 (1960). In Japanese (English summary). Through BCIRA 40: 3926 (1960).
The rate of twist propagation along a yarn between the roller nip and the traveler, in a ring doubler, has been studied. (924)

AUTOMATIC DOFFER ON RING SPINNING MACHINES. Bull. Inst. Textile France No. 88: 101-106 (May/June 1960). In French. Through BCIRA 40: 3928 (1960).
Various modern constructions are reviewed. 12 refs. (925)

DRAWFRAME AS ELEMENT FOR MAINTAINING UNIFORMITY IN A SINGLE-FLYER, THREE-ROLLER SPINNING SYSTEM. T. Schäfer. Textil-Praxis 15, No. 10: 1021-1026 (1960). In German. Through BCIRA 40: 4725 (1960).
The problem of yarn equalization is examined experimentally and by calculation to ascertain the extent to which a uniform count can be maintained in spite of the introduction of the single-flyer system with the elimination of the large number of passages which, during normal spinning, are able to correct the majority of faults. (926)

Yarns B5

DEVELOPMENTS IN CORE SPINNING AT A LANCASHIRE MILL. G. Dowling. Textile Merc. 144: 119-120 (Jan. 27, 1961).
In this description of staple core yarns currently being spun by J. & J. Hayes Ltd, a table comparing the quality characteristics of a conventional combed cotton, a 40s Terylene/combed cotton, and a 34s core yarn of Terylene/combed cotton is included. (927)

STUDIES ON CREPE YARN. PART 4. TWISTING MOMENT. I. Gemma and Y. Fukushima. J. Textile Machy. Soc. Japan 13, No. 10: 720-728 (1960). In Japanese (English summary). Through BCIRA 40: 4826 (1960).
An experiment was made to determine the relation between twisting moment, yarn denier (or yarn radius), the number of twists, the yarn tension during twisting, and the yarn shrinkage. The results were analyzed theoretically on the assumption of a helical yarn structure. (928)

STRENGTH AND ELONGATION OF A SINGLE STAPLE YARN. PART 3. SINGLE STAPLE YARN OF FIBERS HAVING IRREGULAR PHYSICAL PROPERTIES. H. Kuma. J. Textile Machy. Soc. Japan 13, No. 10: 710-719 (1960). In Japanese (English summary). Through BCIRA 40: 4820 (1960).
The influence of irregular fiber properties (length, breaking strength, and elongation) on the tensile strength and elongation of a singles spun yarn is considered theoretically. (929)

EFFECT OF WEATHERING ON THE PROPERTIES OF VARIOUS TEXTILE FIBERS. PART 2. J. Lünenschloss and H. Stegherr. Textil-Praxis 15, No. 10: 1011-1017 (1960). In German. Through BCIRA 40: 4822 (1960). (930)
Weathering test results are presented in the form of diagrams showing for various yarns (cotton, flax, ramie, jute, wool, schappe silk, and manmade fiber yarns), the changes in the stress-elongation curve; kinetic energy, abrasion resistance, and bending strength, brought about after various exposure times as compared with the unexposed materials. (For Part 1 see abstr. 872/61.)

CORD FATIGUE IN FLEET TESTED TIRES. W. G. Klein, M. M. Platt, and W. J. Hamburger. Textile Mfr. 87: 30-34 (Jan. 1961).
See abstr. 3130/60. (931)

BLENDING COTTONS DIFFERING IN FIBER BUNDLE BREAK ELONGATION. PART 1. EFFECT ON THE PROPERTIES OF COMBED SINGLE YARNS. G. L. Louis, L. A. Fiori, and J. E. Sands (So. Reg. Research Lab.). Textile Research J. 31: 43-51 (Jan. 1961).
Two long staple cottons, differing in fiber bundle break elongation but having other pertinent fiber properties substantially equal, were blended in different percentages to permit a study of the effects of break-elongation on yarn properties and spinning efficiency. Yarn strength and elongation were affected by fiber elongation, with fibers having the highest fiber elongation exerting the greatest influence. Furthermore, nep formation increased linearly as the percentage of higher elongation cotton increased in the blend, indicating that neps are directly influenced by average fiber stiffness. It was also found that yarn toughness index correlated closely with yarn impact data, thus suggesting its possible substitution for yarn impact data. The inconsistency of end breakage of the warp and filling yarns during spinning offered no conclusive evidence as to the relative spinnability of the cottons and cotton blends investigated. 21 refs. (932)

RELATIONSHIPS BETWEEN SOME COTTON FIBER CHARACTERISTICS AND THE MECHANICAL PROPERTIES OF YARNS. Centre de Recherches des Industries Textiles de Rouen. Bull. Inst. Textile France No. 88: 77-98 (May/June 1960). In French. Through BCIRA 40: 4039 (1960).
On the basis of spinning test results obtained on a series of cottons, an attempt is made to establish relationships between the tenacity of the yarn and the main fiber properties. It is shown that tensile strength tests on the Stelometer with clamps set at a distance of 1/8 in. give best results, whereas the fiber strength determined by the Pressley dynamometer with touching clamps gives little information on the yarn tenacity. The Stelometer determines, moreover, the breaking elongation of the fibers, which is of great importance in the case of fiber blends. The tenacity of the yarns is less closely related to other fiber characteristics, especially fineness but, in the case of strength control by the Pressley apparatus, it is necessary to take into account the fiber length and the length uniformity. The latter also gives valuable information on the spinnability of the material. (933)

SOME CHARACTERISTICS OF STUFFER BOX CRIMPED YARN IN RELATION TO ITS MANUFACTURING PROCESS. K. Kawasaki. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 797-803 (1960). In Japanese (English summary). Through BCIRA 40: 4738 (1960).
The crimp angle, crimp length, and crimp distribution were examined, and the mechanism of the manufacturing process is discussed in relation to the column buckling theory. (934)

NYLON MONOFILAMENT HOSIERY PACKAGE WITH MODIFIED PIRN BUILD. Brit. Nylon Spinners Ltd. Advance Report No. 34 (Dec. 1960).
Recommendations for handling packages incorporating a long-traverse pirn build in knitting seamless and full-fashioned hosiery. (935)

EFFECT OF PROTECTIVE TWIST ON THE DYNAMOMETRIC PROPERTIES OF TIRE CORD. W. Wegener. Textil-Praxis 15, No. 10: 1000-1007 (1960). In German. Through BCIRA 40: 4733 (1960).
Experimental data obtained by using various dynamometric devices for testing rayon tire cord with and without protective twist show that there is no difference between the elongation behavior of basic yarns, rovings, and cords with or without the protective twist. (936)

EFFECT OF STRUCTURE ON THE STRENGTH OF TWISTED COTTON YARN. L. S. Glikman. Tekhnol. Tekstil. Prom. No. 3 (16): 9-13 (1960). In Russian. Through BCIRA 40: 4043 (1960).

The experiments described led to the conclusion that, according to the change in yarn strength in dependence of structure, the yarn twist can be divided into two groups: (1) twist of yarns with tubular structure with up to six doublings; (2) twist of yarns with core structure with six or more doublings. For the second group, the critical twist coefficients are considerably higher than for the first group and the drop in strength after reaching the critical twist is steeper. The critical twist coefficient for both groups decreases with increasing number of doublings. At twist coefficients below the critical, the strength increases with increasing number of doublings to reach a maximum (at α = 225), whereupon the yarn strength decreases with increasing number of doublings. The strength decrease as a result of irregular tension distribution between the individual component threads takes place only in yarns of the second group and increases with increasing number of doublings. By increasing the twist in yarns of the first group it is, therefore, possible to ensure higher strength than in yarns of the second group at critical twists. (937)

NEW METHOD FOR STUDYING THE FIBER DISTRIBUTION IN A WOOL/NYLON BLEND. F. Maillard, E. Amouroux, and H. Sugier. Bull. Inst. Textile France No. 87: 7-17 (Mar./Apr. 1960). In French. Through BCIRA 40: 4044 (1960).

The method described for studying the effect of fiber distribution in a blended yarn on its appearance and the appearance of a piece of tricot jersey obtained from it, makes it possible to ascertain causes of yarn irregularities which cannot be determined by the usual measurements. (938)

QUANTITATIVE CHANGES OF THE FIBER ARRANGEMENT IN THE CROSS-SECTIONS OF BINARY AND TERNARY YARN BLENDS. T. Karlowicz and W. Zurek. Przeglad Wlok. 14, No. 7: 337-341 (1960). In Polish. Through BCIRA 40: 4821 (1960).

After a brief review of the relevant literature, the authors describe their own studies on yarns from viscose, cellulose acetate, and Perlon fibers. In all yarns studied, the Perlon fibers were found to arrange themselves in the core of the yarn, in contrast to the acetate and viscose fibers, which occur mainly in the outer layers of the cross-section. In 3-component yarn, the viscose fibers tend to arrange themselves more uniformly, while the acetate fibers are found in the outer cross-section layers of the yarn. It is assumed that the behavior of acetate fibers in the 3-component yarn is affected by the greater cross-section and smaller length as compared with viscose fibers. Higher twist of the blended yarn favors higher segregation of the fibers. 14 refs. (939)

EFFECT OF SINGLE AND PLIED YARN TWISTS AND OF FIBER PROPERTIES ON SHRINKAGE IN LENGTH. J. Lünenschloss, J.-G. Helli, and E. Hummel. Melliand Textilber. 41, No. 9: 1059-1062 (1960). In German. Through BCIRA 40: 4573 (1960).

The investigation carried out on four polyester and four Perlon types, as well as on schappe silk, showed that the twisting-in depends upon the yarn count, twist of the singles and plied yarns, number of doublings, yarn diameter, loftiness, fiber crimp, elongation, and twisting tension, each individual factor having a more or less decisive effect. Diagrams are given to illustrate the twisting-in to be expected for various types of fibers under varying conditions. (940)

TEXTURED YARNS BEHIND THE IRON CURTAIN. P. Abbenheim. Textile Inds. 125: 77-81 (Feb. 1961).

Report on the International Symposium on Bulk and Stretch Yarns, Prague, Czechoslavakia. (941)

TREATMENT OF COTTON FIBER WITH ORGANIC SOLVENTS TO INCREASE THE FRICTION BETWEEN THE SINGLE FIBERS. S. Iskhakov, K. U. Usmanov, and V. K. Bukina. Tekhnol. Tekstil. Prom. No. 3 (16): 30-33 (1960). In Russian. Through BCIRA 40: 3932 (1960).

It is shown that, after extraction of the fatty and waxy substances with organic solvents, the yarn strength increases. Of the solvents and wetting agents used, an ethyl alcohol/benzene mixture (1:1), acetone, dichloroethane and a 1% saponin solution gave equally good results. The friction is increased to the greatest extent by treatment with a 1% saponin solution (followed by ethyl alcohol/benzene, acetone, dichloroethane and chloroform), saponin being of practical value because of its economical and technological advantages. (942)

LIVELINESS OF YARN TWIST. G. Gallese. Riv. Tessile 36, No. 10: 1069-1072 (1960). In Italian. Through BCIRA 40: 4827 (1960).

An apparatus and method for measuring the twisting tendency of a yarn at reduced tension (twist liveliness) are described, and the variations in twist liveliness from fiber to fiber, increase of the liveliness proportionally to the twist imparted to the yarn, its decrease with increasing degree of twist setting (by dry or wet heat treatments) and with aging of the yarn, and effects of sizing and moisture content of the yarn on the twist liveliness are discussed. (943)

STUDY ON THE HEAT GENERATION OF TIRE CORD DUE TO INTERNAL FRICTION. PART 4. INFLUENCE OF FINISHING OIL UPON THE INTERNAL FRICTION OF RAYON TIRE CORDS. K. Fujino, H. Takai, T. Horino, and H. Kawai. J. Textile Machy. Soc. Japan 13, No. 10: 699-703 (1960). In Japanese (English summary). Through BCIRA 40: 4834 (1960).

The nonlinear vibration characteristics of yarns are represented in terms of a degenerated visco-plasto-elasticity, taking account of a continuous distribution of Coulomb's friction. The influence of finishing oil on the continuous distribution of Coulomb's friction and the reduced complex dynamic compliance are discussed. (944)

RESORCINOL-FORMALDEHYDE-LATEX ADHESIVE FOR THE CEMENTING OF NYLON TIRE CORD. M. I. Dietrick. Rubber World 136: 846-851 (1957). Through Chem. Abstr. 54, No. 18: 19001b (1960). (945)

STUDY OF FATIGUED VISCOSE RAYON TIRE CORDS. G. B. Redmond. Trans. Instn Rubber Ind. 36, No. 3: 71-90 (1960). Through BCIRA 40: 4576 (1960).

Microscopic examination of rayon tire cords removed from fatigued tires and test specimens showed that the filament breakage predominates in those regions of a cord which have experienced compressive strains. The broken filaments were of two kinds: those with cleanly broken ends, and those with jagged and tapered ends. The latter type appeared to be almost entirely associated with the compressed regions of a cord, and this suggests that they were formed as a direct or indirect result of fatigue. More detailed examination of fatigued filaments revealed a wide variety of filament damage. Photomicrographs are shown illustrating cracks, bulges, distortions, and abrasive wear. The observed filament damage is discussed in relation to the various hypotheses regarding cord fatigue. (946)

CORD STRESS IN TIRES. W. F. Kern. Faserforsch. u. Textiltech. 11, No. 9: 401-408 (1960). In German. Through BCIRA 40: 4828 (1960).
Examples are given to show the complex nature of the cord stress in the tire and the factors causing deformation (air pressure, centrifugal forces at increased velocity, rolling off, variations in air pressure and load, etc.). From the nature and magnitude of the stresses, conclusions are drawn for the tire cord testing technique. (947)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

WARP INSPECTOR. Bruce Peebles & Co. Ltd. Engineering 190: 575 (Oct. 28, 1960). Through BCIRA 40: 4473 (1960).
Brief details are given of a photoelectric device for detecting yarn breaks or faults in warp yarn passing from the creel to the warping or beaming machine. (948)

MODERN METHODS OF YARN PREPARATION. PART 1. AUTOMATIC CONE AND CHEESE WINDING. PART 2. NONAUTOMATIC CONE AND CHEESE WINDING. PART 3. YARN CLEARING. PART 4. WARPING. PART 5. SIZING. J. B. Smith (Manchester Coll. of Science & Technol.). Textile Weekly 61 (1): 127-129, 203, 205, 219-220, 257-258 (1961).
Significant developments are reviewed. (949)

CHOICE OF THREAD CLEARERS FOR WINDERS. Industrie Textile: 617-618 (Sept. 1960). In French. Through BCIRA 40: 4758 (1960).
Thread clearers based on mechanical and on electrical or electronic principles are reviewed, with special reference to the post-clearers of Schlafhorst and of Müller, and the electronic clearers Linra Photo Slubber, Qualitex, Yarnspec, and Knom. (950)

WARP SIZING AND DESIZING. M. Tomiuk (Actol Chem. Ltd). Can. Textile J. 78: 53-58 (Jan. 20, 1961).
The fundamentals involved in the application and removal of warp sizing agents are reviewed, with particular emphasis on the factors to be considered in the former and the importance of proper identification of sizing agents to the latter. (951)

DESIZING WITH BACTERIAL AMYLASE PREPARATIONS TERMOZYM AND AQUAZYM. H. Nielsen. Prakt. Chem. 11, No. 8: 310-312 (1960). In German. Through BCIRA 40: 3970 (1960).
The two preparations (Novo Industri A/S, Copenhagen) show highest activity at 70° C, but this optimum temperature may change in dependence of the pH-value and duration of the reaction. In order to improve the thermal stability of these bacterial amylases (which is in any case higher than that of other amylases), stabilizers are included so that, at temperatures below 65° C, it is not necessary to take special precautions for increasing their stability in the liquor. At temperatures above 65° C, the water used for the desizing bath should have a hardness of 10° (10 mg CaO/100 ml); the stability can be further increased by the addition of common salt. Termozym and Aquazym contain also proteolytic enzymes so that even gelatin-containing sizes can be degraded to smaller fractions which can be washed out of the fiber, together with any impurities which are liberated by the protein degradation. (952)

WATER-SOLUBLE SIZES AND THEIR ADVANTAGES. H. Krause. Textil-Praxis 15, No. 9: 922-923 (1960). In German. Through BCIRA 40: 4474 (1960).
The uses of water-soluble sizing agents and advantages arising from their application are discussed, commercial products are enumerated, and sizes suitable for certain fiber types are listed. (953)

Weaving C2

NOTES ON LOOM MAINTENANCE IN THE CARPET INDUSTRY. F. N. O. Bartlett. Textile Mfr. 87: 28-29 (Jan. 1961).
Planned loom inspection schedules rather than the common practice of running inspections at random are advocated. The implementation of the former is discussed. (954)

BOX-CHAIN MAKING FOR DOBCROSS LOOMS. PART 2. N. C. Gee. Textile Mfr. 87: 12-14 (Jan. 1961).
Typical wefting and box-chain plans for a check pattern and for 4, 5, 6, and 7-odd pick arrangements are described. (See abstr. 4839/60 for Part 1.) (955)

DAUTRICOURT CIRCULAR WEAVING MACHINE. S. S. Samuels. Wool Rev. 34: 22-23 (Dec. 1960).
See abstr. 3091/60. (956)

IDEAS UNDERLYING WEAVING MACHINE PATENTS. PART 13. R. H. Rossmann. Textil-Praxis 15, No. 10: 1030-1034 (1960). In German. Through BCIRA 40: 4761 (1960).
A further 11 patents concerning various automatic loom motions are critically reviewed. One of them (Ger. Pat. 884 480), referring to a completely electrified loom in which not only the shuttle but also the dents and warp threads are driven electrically, is described in detail. (957)

PUTTING LOOMS BACK TO WORK. Textile World 111: 114-115 (Feb. 1961).
Checklist for supervisors. (958)

LOOMFIXER AND HIS JOB. PART 25. W. Westbrook. Textile Bull. 87: 45-46 (Jan. 1961).
Types of gages available and their uses are discussed. (959)

LOOMFIXER AND HIS JOB. PART 26. W. Westbrook. Textile Bull. 87: 54, 56 (Feb. 1961).
The advantages of endless check straps over conventional straps are noted, and pointers for their installation are given. (960)

FRESH IDEAS IN FIXED REED WEAVING. PART 1. E. R. Laithwaite. Skinner's Silk & Rayon Record 35: 38-39 (Jan. 1961).
In order to make electromagnetic shuttle propulsion an economic possibility, a loom with a fixed reed and lay is proposed. The application of such a system to a loom is shown schematically. 1 ref. (961)

FRESH IDEAS IN FIXED REED WEAVING. PART 2. E. R. Laithwaite. Skinner's Silk & Rayon Record 35: 140-141 (Feb. 1961).
Possible modifications in beatup and heddle design for fixed reed looms are discussed and illustrated. (962)

REVIEW OF WARP LET-OFF MOTIONS. N. P. Badve. Textile Dig. 21: 101-114 (July-Sept. 1960).
The influence of warp tension on loom efficiency and fabric quality is discussed, and the principles and mechanisms of various types of warp letoff motions (negative, semi-positive, and positive) are described and illustrated. Studies on the relationship of warp letoff and warp tension and the measurement of warp tension are also reviewed. 24 refs. (963)

WIRE HEDDLE AND ITS MODIFIED SHAPE OF EYELET. I. Grover. Textile Dig. 21: 117-118 (July-Sept. 1960).
The advantages of the rectangular over the elliptical or oval shaped eyelet are cited. (964)

LINKAGE-TYPE PARALLEL AND THE NO. 14 SHUTTLE CHECK. Textile Inds. 125: 70-72 (Feb. 1961).
Mill report on the successful performance of linkage-type parallels in conjunction with No. 14 shuttle checks on its looms. (965)

COLOR MIXING IN WOVEN FABRICS. PART 1. DEVIATION OF CHROMATICITY BETWEEN EXPERIMENTAL AND CALCULATED VALUES. I. Sanuki. J. Textile Machy. Soc. Japan 13, No. 9: 662-666 (1960). In Japanese (English summary). Through BCIRA 40: 4052 (1960).
Color mixing in cloths woven from warp and weft of different colors was studied. (966)

LENO WEAVING. Grob & Co. Ltd. Textile Weekly 61 (1): 84, 86 (Jan. 13, 1961).
Various types of positive easer motions for equalizing warp tension are described. See also abstr. 3504/60. (967)

CONTROLLING QUALITY IN THE WEAVE ROOM. Textile Bull. 87: 56-57 (Feb. 1961).
The basic factors for effective quality control in weaving are outlined. (968)

Knitting C3

WARP KNITTING INDUSTRY. R. Peel (Fidelity Mach. Co.). Can. Textile J. 78: 53-60 (Feb. 3, 1961).
See abstr. 3927/60. (969)

ENGINEERING NEW KNITTED FABRICS FROM MAN-MADE FIBERS. J. H. Blore (Fair-Tex Mills). Can. Textile J. 78: 67-68 (Feb. 3, 1961).
See abstr. 3926/60. (970)

DEVICE FOR APPLYING STIFFENER TO CONTROL EDGE CURL IN KNIT FABRIC. Erhardt & Leimer. Knitted Outerwear Times 30: 51 (Feb. 20, 1961).
The unit, designed particularly for the application of Texurim, a polyamide base fluid, may be used on knitting machines, tenters, or calenders. (971)

KNIT FABRIC VARIETY WITH BAN-LON YARNS. C. Reichman. Knitted Outerwear Times 30: 3, 5 (Jan. 30, 1961).
Some fabric designs developed by the research department of Roselon Yarns using Ban-Lon textured yarns (based on Cadon trilobal nylon), nylon 6, nylon 66, and Dacron are described and illustrated. Conventional piece dyeing techniques, as well as muff-dyeing of yarn, are used. (972)

PROCEDURES FOR ANALYZING RASCHEL FABRICS. PART 1. H. Rotenstein. Knitted Outerwear Times 30: 7, 40 (Jan. 30, 1961).
The basic tools, instruments, and chemicals for the raschel fabric analysis are described. (973)

MANUFACTURE OF ORLON "DOWNIES". Hosiery Trade J. 68: 148-149 (Jan. 1961).
Pointers on knitting, dyeing, and finishing Orlon brushed and sheared interlock fabrics. (974)

TRENDS IN THE DESIGN AND CONSTRUCTION OF MEN'S HOSIERY. W. E. Shinn (N. C. State Coll.). Can. Textile J. 78: 61-66 (Feb. 3, 1961).
See abstr. 3934/60. (975)

WRIGHT-KNIT DEVELOPS A NEW METHOD FOR ACHIEVING 3-D EFFECTS ON HALF-HOSE. W. E. Shinn. Knitter 25: 33-40 (Jan. 1961).
The alternate progression method was developed to produce patterns of solid color on Banner SCP and SCOP machines. The advantages of the method over other methods now in use and the practices involved are described. (976)

STOP YARN FOULING. W. Shewmake. Textile Inds. 125: 117, 119 (Feb. 1961).
A mill-made yarn takeup and binding mechanism for preventing the fouling of small denier yarns with each other and with machinery during knitting of hosiery is described. (977)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 68: 79-82 (Jan. 1961).
Among the developments discussed are: Barfuss HR8 raschel lace machine; knitted underwear for rheumatics; fabric spirality investigations; and an experimental carpet raschel machine. (978)

LEBOCEY MACLENN COARSE GAGE RIB JACQUARD MACHINE. Hosiery Trade J. 68: 141-142 (Jan. 1961).
Features and operation of the Maclenn latch needle cylinder and dial machine are described. (979)

WILDMAN-JACQUARD DOUBLE JERSEY UNIT. C. Reichman. Knitted Outerwear Times 30: 3 (Feb. 6, 1961).
The PBP-44 is a high speed machine which by means of interchangeable cams can be modified to shift from the knitting of double pique and single pique yardgoods to the manufacture of more conventional rib fabrics as well as interlock and eightlock cloth. Its features and operation are described. (980)

SINGLE SYSTEM FLAT PURL MACHINE. Trissler & Kielkopf AG. Hosiery Trade J. 68: 95-97 (Jan. 1961).
The LIFA machine is a single system, power flat purl unit which can knit tuck loops in the hook in both beds. The two needle beds rest upon a reinforced machine stand, and the carriage is driven from a movable alternating current motor via V belts, a drive shaft, and heavy roller chain. Features and knitting methods for various structures are described in detail. (981)

DESIGN SCOPE OF WEVENIT A.24 CIRCULAR YARDGOODS MACHINE. Knitted Outerwear Times 30: 5, 7 (Feb. 13, 1961). (982)

SURVEY OF WILDMAN JACQUARD LATCH NEEDLE CIRCULAR MACHINES. Wildman Jacquard Co. Hosiery Trade J. 68: 88-90 (Jan. 1961).
Features of the following are reviewed: LHDS and LHBDS double cylinder garment-length machines; TJI-12 cylinder and dial garment-length machine; JSD cylinder and dial piece-goods machine; FBW6 high-pile machine. (983)

PRACTICAL HINTS FOR KNITTERS AND KNITTER-MECHANICS. PART 3. Hosiery Trade J. 68: 82-84 (Jan. 1961).
Pointers on needle arrangements, cam setting and shaping, and the use of dummy needles in tuck rib fabric knitting. (984)

STIBBE SB553 LATCH NEEDLE CIRCULAR THREE GAGE RIB MACHINE. G. Stibbe & Co. Ltd. Hosiery Trade J. 68: 108-110 (Jan. 1961).
See abstr. 103/61. (985)

TRIP-TAPE: POSITIVE FEED MECHANISM. Trip-Lite Ltd. Hosiery Trade J. 68: 72-73 (Jan. 1961).
The Trip-Tape feed is especially designed for the manufacture of plain, rib, and interlock fabrics on circular machines. Its operation and advantages are described. (986)

Fabrics C4

HOME FURNISHING FABRICS 1961. Modern Textiles Mag. 42: 33, 36 (Feb. 1961).
Developments in upholstery and domestic fabrics are summarized. (987)

CONTRIBUTION TO THE STUDY OF THE COEFFICIENT OF BINDING. R. Schutz and S. Hunzinger. Bull. Inst. Textile France No. 89: 99-104 (July/Aug. 1960). In French. Through BCIRA 40: 4837 (1960).
The coefficient of binding is defined as the ratio of the fabric strength to the sum of the strengths of the threads in the sample tested. According to results from experiments on samples, woven under identical tension conditions from the same yarn qualities sized exactly in the same manner, but with different density, the coefficient of binding increases proportionally with increasing number of threads per inch (at least for the range of variations studied). This means that the fabric strength in the warp direction increases with the square of the number of threads per inch. (988)

WOOL AND WASHING MACHINES. J. A. Dixie (Australian Wool Testing Authority). Textile J. Australia 35: 1174-1177 (Dec. 20, 1960).
The problem of wool shrinkage is briefly reviewed. Recent developments in its prevention, both from the aspect of shrinkproofing treatments and the laundering and after-care of the garment, are discussed. Reference is made to the manner in which the A. W. T. A. Seal of Approval scheme for shrinkproofed wool assists the retailer, the consumer, and the manufacturer. (989)

WOVEN STRETCH FABRICS. P. M. Thomas. Modern Textiles Mag. 42: 22 (Feb. 1961).
Woven stretch fabrics are fabrics woven with false-twist textured manmade yarns or Helanca nylon yarns. At present, most of them are woven of standard warps, usually cotton, and stretch filling. Their advantages and marketing possibilities are briefly noted. (990)

SHEAR PROPERTIES IN RELATION TO FABRIC HAND. W. F. Kilby (Courtaulds Ltd). (Letter to the editor). Textile Research J. 31: 72-73 (Jan. 1961). (991)

HOME SEWING TECHNIQUES FOR FABRICS OF DACRON, NYLON, OR ORLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. June 1960. 5 p. Bull. X-122. Free. (992)

DESIGN IN WOVEN STRUCTURE. PART 98. WADDING THREADS IN BACKED AND DOUBLE CLOTHS. D. C. Snowden. Wool Rev. 34: 17 (Dec. 1960). (993)

DESIGN IN WOVEN STRUCTURE. PART 99. CENTER-WARP STITCHED DOUBLE CLOTHS. D. C. Snowden. Wool Rev. 34: 31-33 (Jan. 1961). (994)

VERSATILE DOUBLE PLAIN WEAVE. A. J. Bennett. Textile Mfr. 87: 15, 19 (Jan. 1961).
Advantages of the double plain weave are noted, and methods of construction are illustrated. (995)

FASHION FABRIC DESIGNER. W. Hamilton (West Cumberland Silk Mills). Textile Merc. 144: 162-163, 173 (Feb. 3, 1961).
Some reasons for the failure of the British fabric designers to keep up with their Continental rivals are examined. (996)

PRINCIPLES OF FABRIC DESIGNING. E. B. Berry (N. C. State Coll.). Textile Bull. 87: 40-43 (Feb. 1961).
The technique of working out a practical loom setup for tissue gingham from a striped wallpaper design is described. (997)

ACID-RESISTANT FABRICS FROM SYNTHETIC FIBERS. I. Witkowski. Prace Inst. Wlok. 10, No. 1 (33): 69-94 (1960). In Polish. Through BCIRA 40: 4055 (1960).
In this review, the author discusses acid-resistant fabrics for protective clothing (produced in Poland and abroad), conditions of using such clothing, the unsuitability of wool and the advantages of synthetic fibers, the principles of the structure of acid resistant fabrics from synthetic fibers and technological tests, laboratory evaluation of the quality of experimental fabrics, wear tests on these fabrics, and economical aspects. (998)

METHOD FOR DETERMINING THE ORIGINS OF ACCIDENTAL DRAFTS PRODUCING SHINING THREAD DEFECTS. P. Rochas and J. Henno. Bull. Inst. Textile France No. 88: 51-60 (May/June 1960). In French. Through BCIRA 40: 4056 (1960).
A method is proposed for ascertaining whether accidental stretching of yarns, causing shining threads in the fabric, occurred before or after twist insertion. Theoretical considerations have been confirmed by experiments on fabrics in which the defect was produced intentionally and under controlled conditions. (999)

MAKING CARPETS WITH NYLON FLOCK. Soc. Viscose Suisse. Skinner's Silk & Rayon Record 35: 175 (Feb. 1961).
A new type of carpeting produced by the deposition of Nylflock on a foamed latex backing by electrostatic flocking is briefly described. (1000)

TWO CASES OF BARRING IN POLYESTER FIBER TEXTILES. N. Bigler. SVF Fachorgan Textilveredlung 15, No. 9: 591-596 (1960). In German. Through BCIRA 40: 4593 (1960).
In one case microscopic examination of the fabric showed that, on the fabric surface, fibrils were melted together as a result of excessive heat treatment in singeing. In the second case microscopic examination showed deformation of the outer fibrils of the fiber (warp) and destruction phenomena in individual threads caused apparently by abrasion. (1001)

BINARY AND TERNARY FIBER BLENDS IN WEAVING. L. Schallat and J. Mieck. Deut. Textiltech. 10, No. 8: 394-400 (1960). In German. Through BCIRA 40: 4054 (1960).
Results from tests on fabrics and from wear experiments are summarized to show that a 60% admixture of the polyester Lanon to viscose fiber decisively improves the creasing tendency and dimensional stability of the fabric as compared with 100% viscose fiber. The same result is obtained by adding to the viscose fiber 50% polyacrylonitrile fibers (Prelana and Wolcrylon), but these fabrics show greater soilability. Addition of 25% polyamide fibers improves the abrasion resistance, but pilling formation takes place; the pilling tendency can be reduced by the use of profiled Lanon and Dederon fibers. Ternary blends are better than binary mixtures; 50:25:25%, and 25:50:25%, but preferably 40:30:30% of wool/Lanon/viscose fiber produce satisfactory suiting material. (1002)

EVALUATION OF WADDING FOR BEDCLOTHES. S. Tsuchibayashi and S. Fujino. Bull. Textile Research Inst. (Japan) No. 54: 65-82 (1960). In Japanese (English summary). Through BCIRA 40: 4562 (1960).
The physical properties of waddings made from man-made fibers (acetate, Alon, Vinylon, nylon, Kanekalon, Exlan, Vonnel, Cashmilon, Tetron, Tevilon) are compared with those from cotton. (1003)

DESIGNING OF PILE FABRICS. CHAPTER 14. CHENILLE. E. B. Berry. Textile Bull. 87: 48-49 (Jan. 1961).
The weaving processes necessary in the manufacture of true chenille carpets are briefly covered. (1004)

WOVEN CARPET. PART 15. YARNS. H. Osswald. Melliand Textilber. 41, No. 9: 1073-1077 (1960). In German. Through BCIRA 40: 4485 (1960).
Yarns used as pile, warp, and weft materials in woven carpets and their properties and suitability are reviewed. For previous part see abstr. 4409/60. (1005)

INSULATING UTILITY GARMENTS WITH DACRON POLYESTER FIBERFILL. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Jan. 1961. 2 p. Bull. D-132 (replaces Bull. D-111). Free.
Fabrication techniques are discussed for insulated jackets and underwear, and for other insulated utility garments. (1006)

SCIENCE OF CHEMICAL ADDITIVES IN PAPER-MAKING. J. W. Swanson (Inst. Paper Chemistry). Tappi 44: 142A-181A (Jan. 1961).
In this comprehensive discussion of additives in terms of their various classified uses, those additives which affect paper strength, fiber distribution in the sheet, surface properties, optical properties, foam, and pitch are considered. 225 refs. (1007)

PHYSIOLOGICAL PRINCIPLES OF CLOTHING UNDER VARIOUS CLIMATIC CONDITIONS. F. W. Behmann. Deut. Textiltech. 10, No. 8: 412-416 (1960). In German. Through BCIRA 40: 4051 (1960).
The heat economy of the human body and optimum clothing to protect it in humid and warm tropical, hot and dry desert and subtropical climates, as well as humid and cool, cold and dry, subarctic and arctic winter climates are discussed. (1008)

INDUSTRIAL DUST REMOVAL BY MEANS OF FILTER FABRICS FROM POLYACRYLONITRILE FIBERS. F. W. Puff. Chemiefasern 10, No. 10: 646-650 (1960). In German. Through BCIRA 40: 4842 (1960).
Technological data are given for filter fabrics made of Redon polyacrylonitrile fibers as compared with cotton and wool. In view of the biological stability, heat resistance, chemical stability and swelling properties, these fabrics are superior to cotton or wool filter fabrics used in dust removing installations of various industrial plants. (1009)

USES OF ARTIFICIAL AND SYNTHETIC TEXTILES IN FILTRATION. C. Froger. Rayonne et Fibres Synthet. No. 10: 1111-1116 (1960). In French. Through BCIRA 40: 4841 (1960).
The principles of filtration (liquid, air) and the equipment used in industry are discussed, and the advantages offered by synthetic textiles (polyamides, polyesters, polyacrylic, chlorine-containing fibers) are enumerated. (1010)

HIGH-SPEED JACQUARD FOR LACE MACHINES. H. McCallion. Textile Merc. 144: 48-49 (Jan. 13, 1961).
To complement the new stationary bobbin lace machine (see abstr. 5084/60), a high speed jacquard mechanism has been designed to overcome the limitations of conventional punched card systems. The principle of the mechanism is applicable to other forms of textile machinery, including warp knitting equipment, looms, and straight-bar knitting machines having jacquard attachments. (1011)

PROPERTIES OF NONWOVEN FABRICS. PART 1. EVALUATION OF SOME NONWOVEN FABRICS FOR INTERLININGS. S. Tsuchibayashi. Bull. Textile Research Inst. (Japan) No. 54: 47-63 (1960). In Japanese (English summary). Through BCIRA 40: 4580 (1960).
The physical properties of woolen and linen fabrics were compared with those of nylon, nylon/acetate, and Tetron nonwoven fabrics produced by papermaking and card-web methods. (1012)

ASPECTS OF RUBBER-TEXTILE ADHESION. G. M. Doyle. Trans. Instn Rubber Ind. 36, No. 4: 177-194 (1960). Through BCIRA 40: 4518 (1960).
Under constant conditions of treatment of the textile, the bond strengths given by typical latex/resorcinol-formaldehyde adhesives exhibit a close relationship to the average number of available reactive sites per resorcinol unit, in the resins formed at the time of application to the textile. As a further condensation of the resin can take place during the processing of the textile after treatment with adhesive, the number of reactive sites which ultimately determines the bond strength is that at the time of vulcanization. (1013)

POLYTHENE COATED PAPERS: PRESENT AND FUTURE USES. J. V. Eller. Fibres and Plastics 22: 24-25 (Jan. 1961). (1014)

SOME NEW DEVELOPMENTS IN SYNTHETIC FIBER PAPER. R. A. A. Hentschel (E.I. du Pont de Nemours & Co.). Tappi 44: 22-26 (Jan. 1961).
The principle of the manufacture of textryls from synthetic fibers and fibrid binders on papermaking machinery is explained. Fibrids have a morphology similar to wood pulp. When they are combined with synthetic fibers in the feed to the headbox, they contribute high wet waterleaf strength for operability on the paper machine. Since fibrids can be made from a wide variety of polymers, they can be made chemically similar to the fiber which is to be bonded. This permits full utilization of the inherent strength and chemical properties of the synthetic fibers. By combining the various commercially available fibers with appropriate fibrids in a variety of ways, a wide range of products can be made. Thus structures can readily be tailored to meet specific end-use requirements. 2 refs. (1015)

SHRINKAGE OF GLASS-REINFORCED POLYESTERS. H. V. Boenig and N. Walker (Brookpark, Inc.). Modern Plastics 38: 123-132, 196-205 (Feb. 1961).
Causes of shrinkage occurring in glass-reinforced polyesters are reviewed. Examination of these factors indicates that both chemical and thermal shrinkage may very well be major determinants responsible for the formation of the fiber attachment often referred to as "reinforcing bond." Detrimental shrinkage phenomena are discussed in the light of presently available information. 24 refs. (1016)

GLASS FIBER. G. Ogden (Turner Bros. Asbestos Co. Ltd). Fibres and Plastics 22: 37-41 (Feb. 1961).
The properties of glass fibers which make them suitable for resin reinforcement are listed, and the characteristics attainable in the laminates, as well as their potential applications, are summarized. (1017)

WOVEN GLASS ROVINGS AFLOAT. Fibres and Plastics 22: 42-43 (Feb. 1961).
By using a combination of woven glass roving and glass mat reinforced laminates, boat hulls which combine high tensile and flexural strength with good rigidity and resistance to impact are produced. The technique is described. (1018)

DEVELOPMENT OF JUTE/RESIN (NATURAL AND SYNTHETIC) COMBINATIONS. PART 1. FORMULATION OF A SUITABLE WATER-SOLUBLE PHENOL FORMALDEHYDE RESIN FOR PRODUCTION OF JUTE LAMINATES. D. N. Bhattacharyya, I. B. Chakraverti, and S. R. Sen Gupta (Indian Jute Mills Assoc. Research Inst.). J. Sci. Ind. Research (India) 19A: 616-620 (Dec. 1960).
The suitability of single-stage, water-soluble, rapid-curing phenol formaldehyde resin for making jute laminates was investigated. The optimum conditions for the condensation reaction between alkali-catalyzed phenol and formaldehyde were examined with respect to the suitability of the resin formed for purposes of lamination. The effects of the following variables on the resinification of phenol and formaldehyde were investigated: phenol formaldehyde ratio; catalyst concentration; temperature; and refluxing time. 12 refs. (1019)

3-D CONTOUR-WOVEN REINFORCEMENTS. P. Jones (Fothergill & Harvey Ltd). Fibres and Plastics 22: 44 (Feb. 1961).
The advantages of 3-D weaving over conventional methods for producing shaped reinforced laminates are noted. (1020)

GLASS FIBER LAMINATES IN AIRCRAFT. Fibres and Plastics 22: 45-46 (Feb. 1961).
Present uses as structural materials are briefly surveyed. (1021)

HIGH TEMPERATURE ELECTRICAL INSULANTS. Fibres and Plastics 22: 47-48 (Feb. 1961).
Glass fiber laminates, tapes, and cloths impregnated with different resins, give the electrical engineer materials with good dielectric properties at temperatures up to 200° C. (1022)

FINISHING D

SYMPOSIUM ON THE DYEING AND FINISHING OF NEW CELLULOSIC FIBERS. W. J. Hamburger. Am. Dyestuff Reptr. 50: P17-P27 (Jan. 9, 1961).
Dyeing and finishing of Zantrel polynosic staple fiber, by C. E. Coke (Hartford Fibres Co.), p. P17-P22; Dyeing and finishing of new cellulosic fibers: Enka Fiber 500, by L. R. Graybeal (Am. Enka Corp.), p. P22-P23; An introduction to the dyeing and finishing of Corval, Topel, and Moynel, by R. S. Kenyon, p. P23-P25; Avron, Avril, and Avlin: three new fibers from Avisco, by I. H. Welch, p. P25-P27. (1023)

DYEING AND FINISHING OF MANMADE FIBERS IN A COTTON FINISHING PLANT. H. V. Simpson (Reeves Bros.). Am. Dyestuff Reptr. 50: P63-P64 (Jan. 23, 1961).
A few of the basic requirements to be met by cotton-finishing men and machines are summarized. (1024)

SYNTHETIC FIBERS AND THEIR FINISHING: NOW AND IN THE FUTURE. H. Stern. Z. ges. Textil-Ind. 62, No. 18: 775-779 (1960). In German. Through BCIRA 40: 3985 (1960).
New developments in finishing manmade fiber fabrics are discussed, with reference to (1) continuous methods leading to increased production and economy, and (2) possibilities of improving fabric quality by improving the fibers and dyes. In addition to pointing out the importance of crimped and high-bulk yarns, profiled fibers, and fiber blends, the author describes in greater detail the benzyl alcohol method, by means of which it is possible to dye, practically without streakiness, polyamide fabrics with selected acid wool dyes on the jig (see also abstr. 174/61). (1025)

FINISHING DEVELOPMENTS. B. Campbell and W. A. Straw (Bradford Inst. Technol.). Wool Record 98: 47-51 (suppl., Dec. 2, 1960).
Recent developments in techniques and equipment for wool finishing are reviewed. (1026)

CZECHOSLOVAKIAN DYEING AND FINISHING MACHINERY. Dyer 125: 58, 60 (Jan. 13, 1961).
Features of the Kovo automatic dye jigger, open width washing machine, open width dyeing machine, 6-color roller printing machine, screen printing equipment, and tenter and dryer are outlined. (1027)

DEFECTS OCCURRING IN FINISHING AND HOW TO AVOID THEM. K. Schicktanz. Tex 19, No. 8: 481-483 (1960). In Dutch. Through BCIRA 40: 4531 (1960).
Defects occurring during pleating, fulling, carbonizing, drying, raising, and shearing and their causes are reviewed. (1028)

Chemical processes D1

ATTACHMENT OF ACTIVE HYDROGEN COMPOUNDS TO CELLULOSE WITH DIVINYL SULFONE. C. M. Welch and J. D. Guthrie (So. Reg. Research Lab.). (Letter to the editor). Textile Research J. 31: 84-86 (Jan. 1961).
Experiments on the cross-linking of an 80 x 80 bleached cotton print cloth with divinyl sulfone adducts of dimethylamine, piperazine, basic fuchsin, orange II, glycerol, N-ethyl-N-(2,3-dihydroxypropyl)amine, and urea are reported. (1029)

CHANGES IN THE PROPERTIES OF PARTIALLY PHOSPHONOMETHYLATED COTTON CAUSED BY CROSSLINKING PRIOR TO PHOSPHONOMETHYLATION. S. R. Hobart, G. L. Drake, Jr., and J. D. Guthrie (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 92-96 (Feb. 6, 1961).
Crosslinking the cellulose of cotton fabrics with dichloropropanol prior to phosphonomethylation with disodium chloromethyl phosphonate made possible a higher degree of substitution without loss of fabric structure. Flame resistance, cation exchange capacity, resistance to microbiological degradation, and moisture content increased approximately in proportion to the increase in degree of substitution. Furthermore, prior crosslinking produced fabrics with significantly less stiffness, and nearly normal air-permeability. 14 refs. (1030)

COTTON FABRIC PREPARATION. C. Peters. Textile Inds. 125: 85-86 (Feb. 1961).
Treatments for preparing cotton fabrics for dyeing and resin finishing and their relation to each other as they affect the final quality of the fabric are critically discussed. (1031)

A SIMPLE METHOD FOR DETERMINING LIQUOR CONCENTRATIONS DURING REMOVAL OF CHEMICALS IN STANDING BATHS. A. Freyberg. Melliand Textilber. 41, No. 9: 1133-1134 (1960). In German. Through BCIRA 40: 4496 (1960).
The method described is based on purely mathematical principles, by means of which it is possible to determine accurately the respective concentration of wash liquors by introducing two dimensionless values, of which one signifies the ratio of the water quantities and the other the ratio of the mixtures as a function of time. A practical example is given. (1032)

CELLULOSE TRIACETATE FIBERS: TREATMENT TO RAISE THE SAFE IRONING TEMPERATURE. Textile Merc. 144: 94-95 (Jan. 20, 1961).
Triacetate fabrics may be safely ironed at temperatures of 220° C or higher by treating them with selected carboxylic esters, ethers, or ether-carboxylic esters of polyhydric alcohols and heating at 100 to 145° C (BP 852 729). (1033)

STUDIES ON RESIN DISTRIBUTION IN RESIN FINISHING. PART 6. EFFECT OF ADDED THERMOPLASTIC RESIN. S. Yokoyama and Y. Onti. PART 7. EFFECTS OF DIELECTRIC HEATING. S. Yokoyama. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 866-872 (1960). In Japanese (English summary). Through BCIRA 40: 4785 (1960).
Part 6. Addition of resin decreases migration of the precondensate during predrying. Part 7. Dielectric heating (cf. hot-air heating) prevents migration of the precondensate during predrying and reduces the amount of surface resin formed. (See abstr. 2407/60 for previous part.) (1034)

HOW TO KEEP NYLON WHITE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. N-132 (replaces Bull. N-82). Free. (1035)

PROGRESS IN THE PERFECTION OF ANTISTATICS. P. W. Sherwood. Textile Bull. 87: 63, 66 (Jan. 1961).
Progress in the understanding of the fundamental nature of static and the requirements of antistatic agents is briefly reviewed. 2 refs. (1036)

PROBLEMS OF PERMANENT ANTISTATIC FINISHING. H. Frotscher. Melliand Textilber. 41, No. 9: 1121-1124 (1960). In German. Through BCIRA 40: 4516 (1960).
Means for producing a permanent antistatic finish are reviewed, with special reference to chemical modification of the fibrous material, chemical modification of the fiber surface, and production of a strongly adhering insoluble film on the fiber surface. The effects of antistatic finishes on the soilability and pilling tendency of the treated material are also briefly discussed. (1037)

EFFECT OF BLEACHING TREATMENTS ON THE BEHAVIOR OF A BLEACHED COTTON FABRIC DURING SUBSEQUENT LAUNDERINGS. A. Parisot. Bull. Inst. Textile France No. 89: 7-31 (July/Aug. 1960). In French. Through BCIRA 40: 4768 (1960).
Samples of a standard cotton fabric (specially produced for the tests) were subjected to 8 different bleaching treatments and each of the bleached samples was subjected to different treatments causing mechanical and/or chemical degradation. Dynamometric strength, bursting strength, degree of polymerization, solubility index, etc. were then measured and compared with those of an unbleached control sample. The degree of accuracy of the results obtained is studied and the bleaching treatments are rated in relation to their effect on the wear resistance of the bleached fabrics. (1038)

COLOR EFFECTS PRODUCED IN NEARLY WHITE FABRICS BY HOUSEHOLD DETERGENTS. M. S. Furry, P. L. Bensing, and M. L. Johnson (Agri. Research Serv.). Am. Dyestuff Reptr. 50: 50-55 (Jan. 23, 1961).
Most household detergents for laundering now contain fluorescent whiteners, some contain bluing or other colored pigments. Because these products differ in their effectiveness and may produce marked color changes in fabrics, the suitability of five representative household detergents for unsoiled fabrics of different fiber types and finishes was investigated. 3 refs. (1039)

PRODUCTION OF COATED TREVIRA (POLYESTER FIBER) FABRICS IN THE WEAVING MILL. J. Claviez and A. Plochmann. Textil-Praxis 15, No. 9: 927-931 (1960). In German. Through BCIRA 40: 4486 (1960).
The technological properties of a coated Trevira fabric are compared with those of an impregnated cotton sailcloth, and directions are given for the preparation for weaving and weaving of the suitably sized Trevira yarn. (1040)

EMULSIONS: THEIR PROPERTIES AND USES. PART 1. EMULSIONS IN THE TEXTILE INDUSTRY. F. O. Howitt. Lab. Pract. 9, No. 6: 417-426 (1960). Through BCIRA 40: 3971 (1960).
After a brief consideration of the theory of emulsions, the author discusses at some length the uses of emulsions in the textile industry, particular attention being paid to the scouring of wool. (1041)

MODERN BLEACHING TECHNIQUES. L. Chesner (Laporte Chem. Ltd). Textile Merc. 144: 58-59 (Jan. 13, 1961).
The special advantages and applications of hydrogen peroxide, peracetic acid, and sodium chlorite in modern bleaching technology are explained. (1042)

DRYCLEANING METHODS. R. M. Smith. Wool Record 98: 13-17 (suppl., Dec. 2, 1960).
Modern techniques and special precautions for avoiding felting, shrinkage, fading, and yellowing, and for handling showerproof and pleated fabrics are briefly reviewed. (1043)

MECHANISM OF THE LOSS OF COPPER FROM COTTON FABRIC DURING ACTINIC BREAKDOWN UNDER CONDITIONS OF WETTING. PART 1. PRELIMINARY EXPERIMENTS WITH COPPER CARBONATE. G. R. F. Rose, J. B. Clifford, and C. H. Bayley (Can. Nat. Research Coun.). Textile Research J. 31: 1-14 (Jan. 1961).
The work reported is initial data obtained in a program designed to study more fully the mechanism of the loss, from cotton fabrics containing them, of textile fungicides exposed to conditions approximating those of outdoor weathering in clean air and the nature of the breakdown products of the cellulose. Data are given for the loss of copper carbonate from bleached cotton duck in a series of laboratory exposures designed to approximate conditions of outdoor weathering. 14 refs. (1044)

KEEPING THE MOTHS AT BAY. R. W. Moncrieff. Wool Record 98: 21, 23 (suppl., Dec. 2, 1960).
The properties and application of Dielmoth and Mitin mothproofing finishes are discussed. 4 refs. (1045)

OIL REPELLENT FINISHING WITH FLUOROCHEMICALS. H. Enders and H. K. Wiest. Melliand Textilber. 41, No. 9: 1135-1144 (1960). In German. Through BCIRA 40: 4536 (1960).
The principles of a new oil repellent surface effect, and the methods of preparing and applying the finish are described. The behavior of fluorocarbon-treated fabrics with respect to the creep and spreading of organic liquids, e.g. chlorinated hydrocarbons, is discussed, an oil test is described, and reference is also made to the effect of fluorochemicals on the strength of the fabric and to the permanency of the finish. (1046)

IN SITU POLYMERIZATION OF ETHYLENE UREAS AND ETHYLENE AMIDES WITHIN THE FIBERS OF COTTON. F. B. Jones, H. G. Hammon, R. I. Leininger, and R. G. Heiligmann (Battelle Memorial Inst.). Textile Research J. 31: 57-65 (Jan. 1961).
A research program was carried out to investigate a new approach to cotton finishing. This approach involved a study of various diaziridinyl compounds, such as those obtained by reacting ethylene imine with organic diisocyanates, diacid chlorides, and bischloroformates as potential cross-linking agents for cotton cellulose to produce "minimum care" or "wash-wear" fabric finishes. However, the diaziridinyl finishes, being nitrogen-containing compounds, demonstrate a strong tendency to retain chlorine after chlorine bleaching. 4 refs. (1047)

WASH AND WEAR AND EASY CARE. C. S. Whewell and D. J. Gaunt (Univ. Leeds). Wool Record 98: 51-55 (suppl., Dec. 2, 1960).
Requirements of and methods for achieving wash and wear finishes in wool and their effect on other aspects of finishing are discussed. (1048)

PROCESS FOR THE MODIFICATION OF COTTON WITH FORMALDEHYDE. L. H. Chance, R. M. Perkins, and W. A. Reeves (So. Reg. Research Lab.). (Letter to the editor). Textile Research J. 31: 71 (Jan. 1961).
The process described is based on the treatment of fibers in a partially swollen state with formaldehyde. A typical pilot plant run is described. Fabrics with high wet and dry wrinkle recovery and good tensile and tear strength are obtained. (1049)

CREASE RESISTANCE FOR SPUN-RAYON FABRICS. A. J. Hall. Textile World 111: 91, 93 (Feb. 1961).
The production of wash and wear finishes on spun rayons by preswelling the fabrics prior to resin treatment is discussed. Typical results achieved are tabulated. (1050)

EFFECT OF LAUNDERING METHODS ON THE WRINKLING OF WASH-AND-WEAR COTTON SHIRTS. M. B. Shilling and R. W. Padgett (Purdue Univ.). Am. Dyestuff Reptr. 50: 85-91, 118 (Feb. 6, 1961).
The study revealed that different methods of washing and drying produced different patterns of wrinkling. The hand-wash at 105° F, drip-dry method produced the best results as regards wrinkling. 2 refs. (1051)

CATALYSIS OF THE REACTION OF UREA-FORMALDEHYDE PRECONDENSATES ON CELLULOSE. R. Steele (Rohm & Haas Co.). J. Appl. Polymer Sci. 4: 45-54 (July/Aug. 1960).
Results of a study on the condensation of dimethylol urea on cotton with typical acidic and basic catalysts are presented. The acid-cured resin-treated fabric is crosslinked and has a high degree of crease recovery with a proportional loss in tensile strength. The alkali-catalyzed product has a lower crease recovery and higher strength. The resin deposited in it is of intermediate effectiveness in changing the physical properties. It is not so effective as the crosslinking resin formed by acid-catalyzed curing, but is more effective than the low molecular weight polymer formed by simply drying the precondensate in the fabric. 21 refs. (1052)

SELF-SMOOTHING FABRICS: THE TRIAZINES. J. T. Marsh. Textile Mfr. 87: 25-27 (Jan. 1961).
The structural and chemical interrelationships of the melamines, triazines, and triazones as related to their use as creaseproofing agents are discussed. (1053)

REDUCING THE FELTING SHRINKAGE OF WOOL. F. H. Steiger (Rohm & Haas Co.). Am. Dyestuff Reptr. 50: P97-P104 (Feb. 6, 1961).
The chemistry and mechanics of wool feltproofing processes and the use of acrylic resins for this purpose are described. The acrylic resins compare favorably with other available treatments with regard to their ability to stabilize wool. Moreover, they avoid the undesirable effects on secondary fabric properties from which other commercial treatments suffer. 30 refs. (1054)

STABILITY OF PVC. PART 1. LABORATORY EVALUATION. G. D. Burdess and C. N. Finlay (Durham Chem. Ltd). Fibres and Plastics 22: 21-23 (Jan. 1961).
A number of theories proposed for the mechanism of PVC degradation are reviewed, and methods of countering it are described. Physical properties and applications of a number of stabilizers are also discussed. 6 refs. (1055)

DYLAN SHRINK RESISTANT WOOL. Wool Record 98: 42-43 (suppl., Dec. 2, 1960).
The background and basic details of the Dylan process are outlined. (1056)

STABILIZATION OF WOOL FABRIC BY INTERFACIAL POLYMERIZATION. R. E. Whitfield, L. A. Miller, and W. L. Wasley (Western Reg. Research Lab.). (Letter to the editor). Textile Research J. 31: 74 (Jan. 1961).
A new technique for making wool fabrics shrink resistant by treatment with polyamides using interfacial polymerization is described. 12 refs. (1057)

STUDIES ON THE COMPRESSIVE SHRINKING PROCESS FOR SPUN RAYON FABRICS. T. Owashi and K. Senda. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 859-865 (1960). In Japanese (English summary). Through BCIRA 40: 4791 (1960).
The shrinkage behavior of cotton and spun rayon cloths (different rayons) was examined after compressive shrinkage on an experimental machine. The fabrics with most residual shrinkage were made from fibers with the highest water imbibition and low wet-modulus. (1058)

STUDIES ON TEXTILE FINISHING AGENTS. PART 18. EFFECTS OF ADDITIVES IN THE POLYMERIZATION AND CONDENSATION REACTIONS OF N-METHYLOL-ACRYLAMIDE WITHIN COTTON FABRICS. PART 19. POLYMERIZATION AND CONDENSATION REACTIONS OF N-METHYLOLACRYLAMIDE WITHIN THE FIBER. H. Kamogawa, R. Murase, and T. Sekiya. Bull. Textile Research Inst. (Japan) No. 54: 27-45 (1960). In Japanese (English summary). Summary in BCIRA 40: 4522 (1960). (1059)

INORGANIC FINISHES FOR KNITWEAR OF ORLON ACRYLIC FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1961. 3 p. Bull. OR-109. Free.
Properties and potential uses of Baymal and Alon C colloidal alumina are discussed. (1060)

WASHFAST FINISHING OF SPUN RAYON FABRICS. L. Martin. Chemiefasern 10, No. 9: 589-590 (1960). In German. Through BCIRA 40: 4526 (1960).
Results are reported as regards stability of the resin, reduction of swellability, crease recovery, drying rate and wash-and-wear properties, dimensional stability and mechanical properties of resin treated fabrics (crease- and shrinkproofed), the fastness of which was tested by washing them 5 times in the washing machine at 45° C. (1061)

SOFTENING OF RAW SILK BY TREATMENT WITH CHEMICAL COMPOUNDS. W. Tsuji and M. Imai. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 879-883 (1960). In Japanese (English summary). Through BCIRA 40: 4760 (1960).
Raw silk is softened by treatment with solutions of calcium chloride, ammonium chloride, sodium bicarbonate, and triethanolamine diluted with 10% of water. Measurements of buckling force were made, and the mechanism of softening is discussed (plasticization). (1062)

A LOOK AT MODERN SHOWERPROOFING FINISHES. P. L. Wright (Wm. Denby & Sons Ltd). Wool Record 98: 3-7 (suppl., Dec. 2, 1960).
The distinction between showerproof and waterproof finishes is explained, and the range of treatments available for the former is discussed. (1063)

INVESTIGATIONS INTO THE WATERPROOFING OF TEXTILES WITH SILICONES. O. Glenz. Melliand Textilber. 41, No. 9: 1125-1129 (1960). In German. Through BCIRA 40: 4535 (1960).
Silicone water repellent agents based on dimethylpolysiloxane and hydrogenmethylpolysiloxane, respectively, are discussed, and the state in which the silicone is present on the textile fiber is investigated and related to the properties of the finished fabric. The absorption of silicones and the effect of wetting agents and detergents on the water-repellency of the treated fabric are also studied. (1064)

HYDROPHOBAL WATER-REPELLENT FINISHES. Chemische Fabrik Pfersee. Skinner's Silk & Rayon Record 35: 46 (Jan. 1961).
The range of Hydrophobal products mentioned includes: paraffin emulsions with/without protective colloids with metal salts; paraffin emulsions free from colloids combined with zircon salts; fat modified synthetic resins; and agents based on stearyl chrome chloride. (1065)

Dyeing and printing D2

SYNTHETIC FIBERS AND THEIR BLENDS IN THE FINISHING PLANT. PART 2. E. Schönpflug. Textil-Praxis 15, No. 9: 945-948 (1960). In German. Through BCIRA 40: 4506 (1960).
Preparation and dyeing of polyacrylonitrile fibers (100% acrylonitrile, polyacrylonitrile with basic groups and with acid groups, respectively, and polyacrylonitrile with basic and acid groups) alone (as bulk yarns) and in blends with wool, polyamide fibers and cellulose fibers are described. For Part 1 see abstr. 178/61. (1066)

CHEMICAL AND KINETIC PROCESSES TAKING PLACE DURING DYEING OF DRALON. K. Neufang. Z. ges. Textil-Ind. 62, No. 18: 771-774 (1960). In German. Through BCIRA 40: 3999 (1960).
The possibilities and limitations of the present methods for dyeing polyacrylonitrile fibers are reviewed in chronological order of their development. Special reference is made to the dyes which are chemically bound to the sulfo-groups of the fiber, their number/g of fiber determining the maximum color intensity attainable. The high dye-binding energy of these fibers is responsible for the low leveling power of the dyes and it is, therefore, of importance to solve the problem of suitable dye combinations by studying the reaction kinetics and the effect of retarders. (1067)

CONTINUOUS DYEING OF ORLON ACRYLIC TOW. R. J. Thomas (E. I. du Pont de Nemours & Co.). Dyes & Chem. Tech. Bull. 16: 115-126 (Dec. 1960).
The technique described is based on the pad-steam process using ethylene carbonate as a pad-liquor additive. Physical and fastness properties of tows dyed by this method are noted, and details of the laboratory evaluation of cationic and disperse dyes for application by the process are included. 2 refs. (1068)

BENZYL ALCOHOL DYEING METHOD. PART 2. NAVY BLUE AND BLACK SHADES. H. Stern. SVF Fachorgan Textilveredlung 15, No. 9: 582-583 (1960). In German. Through BCIRA 40: 4508 (1960).
The dyeing method described previously for streak-free dyeing of polyamide fabrics (abstr. 174/61) has been used for dyeing navy-blue and black shades with Cibalan dyes. The difference between the dyeings in the presence and absence of benzyl alcohol is illustrated by means of dyed samples. (1069)

DYEING OF ACRILAN 16 AND ACRILAN 16/ACRILAN 1656 BLENDS. W. Stump (Chemstrand Corp.). Am. Dyestuff Reptr. 50: P105-P107 (Feb. 6, 1961).
Since Acrilan 1656 is dyed with a variety of dyestuff classes and Acrilan 16 is dyed with disperse and cationic dyes only, the two fibers can be combined to produce a 100% acrylic fabric which can be piece dyed into solid shades or into two colors by a simple one-bath method. The dyeing procedures for dyeing fabrics of 100% of one or the other fiber, of blends of the two fibers, and of blends of these fibers with other fibers, especially rayon and wool, are briefly explained. (1070)

DYEING OF BLENDS FROM POLYESTER AND CELLULOSE FIBERS, WITH SPECIAL REFERENCE TO PALANIL AND INDANTHRENE DYES. A. Würz. Z. ges. Textil-Ind. 62, No. 18: 787-793 (1960). In German. Through BCIRA 40: 3996 (1960).
Laboratory and practical experiments are reported, which were carried out by dyeing these fiber blends during various processing stages (dyeing of blended yarn and of piece goods on the jig, in the winch beck, on the beam-dyeing installation, and by various techniques of the Thermosol process). Brief reference is also made to pigment dyeing of piece goods from polyester/cellulose fibers. A list of Palanil and Indanthrene dyes suitable for the Thermosol process is given. (1071)

FAST DYEING AND FINISHING OF POLYESTER FIBERS AND YARN BLENDS WITH CELLULOSIC FIBERS, WITH SPECIAL REFERENCE TO THE THERMOSOL PROCESS WITH POLYESTRENE DYES. J. Müller. Z. ges. Textil-Ind. 62, No. 18: 779-786 (1960). In German. Through BCIRA 40: 3995 (1960).
A detailed description is given of the principles and technique of the Thermosol process. The fastness properties of dyeings with Polyestrene dyes, dyeing possibilities, finishing of the cellulose component in blended fabrics, and combination of dyeing and finishing are also discussed. (1072)

DYEING OF FABRICS FROM POLYESTER/CELLULOSE FIBER BLENDS BY USING THE NEW ESTEROPHIL DYES. A. Schmidlin. SVF Fachorgan Textilveredlung 15, No. 8: 506-511 (1960). In German. Through BCIRA 40: 3994 (1960).
Directions are given for dyeing first the polyester component of the fabrics with Esterophil dyes (Thermosol method, high temperature dyeing or use of carriers) and over-dyeing the cotton component with vat dyes. When using the Thermosol process, the vat dye can be either padded together with the Esterophil dye and developed after thermofixing on a continuous line or on the jig, or applied to the fiber after the polyester component has been dyed. This cannot be effected if the polyester component has been dyed by the high temperature method or in the presence of carriers. (1073)

DYEING OF POLYAMIDE YARNS. R. Weber. Chemiefasern 10, No. 9: 591-595 (1960). In German. Through BCIRA 40: 4507 (1960).
Various dyeing problems are elucidated, the properties of different dye groups on polyamide fibers are discussed, and a practical example is given for dyeing polyamide yarn. (1074)

DYEING SYNTHETIC FIBERS. W. S. Willson (Bradford Dyers' Assoc. Ltd). Wool Record 98: 25-29 (suppl., Dec. 2, 1960).
Brief description of the techniques and dyes used for nylon, polyester, acrylic, acetate, triacetate, and viscose fibers. (1075)

DYEING TURQUOISE BLUE SHADES, WITHOUT PHOTOTROPIC PROPERTIES, IN FINISHING WITH THERMOSETTING RESINS. H. Goorhuis. Tex 19, No. 8: 478-480 (1960). In Dutch. Through BCIRA 40: 4502 (1960).
Dyeing of cotton fabrics with Panduran dyes by the pad-steam and pad-roll process, respectively, is described and advantages of the methods are enumerated. Well-fixed dyeings, finished with resins, show no phototropy even under the most unfavorable conditions. (1076)

CHANGE IN THE MECHANICAL PROPERTIES OF COTTON DURING DYEING. E. N. Chernov. Tekhnol. Tekstil. Prom. No. 3 (16): 14-23 (1960). In Russian. Through BCIRA 40: 3982 (1960).
Experiments showed that, during dyeing of cotton with direct dyes on discontinuous installations, a considerable proportion of the water-soluble components is washed out, the ash content of the fiber decreases rapidly, the wax-like substances migrate from the fiber surface into the secondary wall, the hydrophilic properties are reduced, and partial destruction of the cellulose takes place. The changes in the composition and structure of the fiber affect its mechanical properties which, in turn, can decisively affect the technological process and the yarn properties. Aftertreatment of the dyed fiber with a salt solution considerably improves its mechanical properties. (1077)

DYEING OF BLACK SHADES ON RILSAN. S. F. Borsten. SVF Fachorgan Textilveredlung 15, No. 8: 512-514 (1960). In German. Through BCIRA 40: 3991 (1960).
In the experiments described, disperse and anionic dyes (weakly acid or substantive, metal-complex and chromium dyes) were used. Naphthol-AS combinations with acetate-diazo dyes gave good results in the laboratory but have not been able to gain popularity in practice. The results obtained in practice for black, as well as other dark shades, with chromium dyes are very satisfactory, if dyeing is carried out in the presence of 8% sulfuric acid at boiling temperature for 1 hr, the bath then cooled to 70° C, and the dyeing treated with 6% potassium dichromate. The material is then rinsed and soaped hot with addition of 1 cc/1 ammonia to remove unreacted dichromate and to complete development of the dye. (1078)

DISPERSE DYES FOR DACRON POLYESTER FIBER AND ITS BLENDS. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 127-129 (Dec. 1960).
Information based on laboratory and mill experience with Du Pont dyes is tabulated. (1079)

DYEING OF KAPRON LINEN AND ELASTIC BY DISPERSED METAL-CONTAINING DYES. A. A. Kharkharov and E. E. Starikovich (S. M. Kirov Textile Inst., Leningrad). Izvest. Vysshikh Ucheb. Zavedenii, Tekhnol. Legkoi Prom. No. 4: 121-129 (1960). In Russian. Summary in Chem. Abstr. 55: 998d (1961). (1080)

PUTTING COLOR INTO CARPETS. D. R. Lemin (Imp. Chem. Inds. Ltd). Wool Record 98: 45-47 (suppl., Dec. 2, 1960).
Practical recommendations for achieving level dyeings on wool carpet yarns in Hussong machines. (1081)

RELATIONSHIP BETWEEN DYE ABSORPTION AND COTTON FIBER PROPERTIES. R. Crespo. (Letter to the editor). Textile Research J. 31: 80-81 (Jan. 1961). (1082)

CONSTITUTION AND EFFECTIVENESS OF ORGANIC SUBSTANCES AS CARRIERS DURING DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. PART 1. P. Senner and T. Böhme. Textil-Praxis 15, No. 9: 940-944 (1960). In German. Through BCIRA 40: 4509 (1960).

Processes that can be used in dyeing polyester fibers with disperse dyes are briefly reviewed, methods for evaluating the effectiveness of carriers are critically examined, and the authors' own method is described. The quantity of dye absorbed by a polyester foil is determined by direct colorimetry with a Lange colorimeter. Dyeing curves of two commercial products in dependence of dyeing time, temperature, carrier concentration, and emulsifier are presented. 10 refs. (1083)

CONSTITUTION AND EFFECTIVENESS OF ORGANIC SUBSTANCES AS CARRIERS DURING DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. PART 2. P. Senner. Textil-Praxis 15, No. 10: 1051-1056 (1960). In German. Through BCIRA 40: 4779 (1960).

The author's method of evaluating the effectiveness of a carrier from the amount of dye absorbed (determined by direct colorimetry of a dyed foil) was used for the examination of 41 organic substances (benzoic acid and derivatives, salicyclic acid and derivatives, ketones, phenols and derivatives, ethers etc.) as regards their effect on the dyeing intensity obtained with disperse dyes. It was found that pure carrier solutions have a considerably smaller effect than disperse carrier systems. (See abstr. 1083/61.) (1084)

METAL COMPLEXES OF NAPHTHOL AS COUPLINGS WITH VARIOGEN BASE. -. Gross. Textil-Praxis 15, No. 10: 1046-1048 (1960). In German. Through BCIRA 40: 4774 (1960).

The metal-complex-forming Variogen Bases I and II (Farbwerke Hoechst AG) give, depending upon the Naphthol component and the metalizing agent (cobalt, copper, or nickel), green, dark-gray, navy-blue, or brownish shades with very good light-, wet- and crock-fastness and stability to sequestering agents and histidine. Directions are given for dyeing on machines, jigs, winch becks, etc., two methods being used for the metalization: (1) in the development bath, where the heavy metal salt is added to the liquor, containing the diazotized base, dispersing agent and buffer system, before or after the developing has set in, and (2) in the soaping bath, into which the metal salt is introduced in admixture with an auxiliary complex former (e.g. a sequestering agent) which combines with the heavy metal salt and prevents its precipitation in alkaline medium in the form of hydroxide. (1085)

PIGMENT MIGRATION IN DYEING WITH VAT DYES. M. Bräuer. Melliand Textilber. 41, No. 9: 1102-1109 (1960). In German. Through BCIRA 40: 4500 (1960).

Factors responsible for the pigment migration are investigated, especially: fiber type and fabric structure, pretreatment of the material, working conditions during pigment padding, type of dye used, and composition of the padding liquor. The effect of the degree of dye distribution and of the dispersing-agent content in the dye on the migration tendency is illustrated by examples and suppression of migration by electrolytes, thickeners, and padding assistants is discussed. (1086)

PRINTING OF ANTRON TRILOBAL MULTIFILAMENT NYLON. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 140-144 (Dec. 1960).

Typical formulations and procedures for acid, neutral dyeing premetalized, metalized acid, direct, disperse, and vat dyes. (1087)

NEW ASPECTS DURING DYEING OF CELLULOSE FIBERS ON HIGH TEMPERATURE EQUIPMENT: DYEING WITH CIBA AND CIBANONE DYES UNDER HIGH TEMPERATURE CONDITIONS. A. Litzler and P. Ulrich. Textil-Praxis 15, No. 10: 1048-1051 (1960). In German. Through BCIRA 40: 4778 (1960).

A new vat dyeing process is described for dyeing cellulosic fibers, especially hard fiber yarns (flax, ramie, etc.) in the form of cheeses, at temperatures above 100° C. Thirty-seven Ciba and Cibanone dyes can be used in the process without appreciable shade and intensity variations. A new reducing agent was found which shows in alkaline solution distinct reducing properties and whose reducing action persists for a long time at higher temperatures. (1088)

COLD BATCHING PROCESS FOR CIBACRON DYES. P. Ulrich. SVF Fachorgan Textilveredlung 15, No. 9: 570-581 (1960). In German. Through BCIRA 40: 4503 (1960).

The cold-dyeing method described is based on padding the fabrics (cotton, linen, viscose and cuprammonium rayons) with cold padding solutions containing sodium hydroxide and Glauber's salt, and then batching them up for 12-16 hr during which fixing of the dye takes place at room temperature. The unfixed dye is removed by washing on the jig, winch-beck, or open-width washing machine. Advantages of the process are pointed out; it can also be used in dyeing cotton/polyester fabrics, and the Cibacron dyes can be applied in combination with Cibantin dyes (green shades). (1089)

KINEMATICS OF THE DYE-JIG. F. Pilz. Magyar Textiltech. 11, No. 11: 447-450 (1959). In Hungarian. Through BCIRA 40: 4497 (1960).

With jigs driven by a differential gear the fabric speed at the beginning and end is the same on both full and empty rollers, but, in the middle, the cloth passes through the dye at much higher speed. (1090)

MONFORTS REACTOR: VERSATILE CONTINUOUS DYEING MACHINE FOR SYNTHETIC FIBER FABRICS. F. Fortess, J. E. Torbet, G. C. Ward, and J. S. Warner (Celanese Fibers Co.). Am. Dyestuff Reptr. 50: P57-P62 (Jan. 23, 1961).

This paper reports experiences with the semicommercial-scale Monforts Reactor installed October 1959 in the Celanese Fibers Co.'s Dyeing & Finishing Development Pilot Plant at Charlotte, N. C. The processing of a wide variety of polyamide and polyester continuous filament fabrics, and spun fabrics based on polyamide, acrylic, nytril, and polyester fibers is described. The advantages and disadvantages of processing sheer continuous filament fabrics, corduroys, pile and tufted fabrics, and heavy upholstery fabrics are discussed. A method has been developed for continuously dyeing triacetate black with 30 sec residence time, by simultaneously applying a stabilized diazo base and beta-oxynaphthoic acid. 5 refs. (1091)

OXONE MONOPERSULFATE COMPOUND FOR STRIPPING CATIONIC DYES FROM ORLON TYPE 42 ACRYLIC FIBER. E. N. Sarantis (E. I. du Pont de Nemours & Co.). Dyes & Chem. Tech. Bull. 16: 145-146 (Dec. 1960). (1092)

DEVELOPMENT OF DISPERSE DYE PRINTS ON DACRON POLYESTER FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 130-133 (Dec. 1960).

Information on the aging and steaming properties of Du Pont disperse dyes on Dacron types 54 and 56 and types 62 and 64. (1093)

ABSORPTION OF A DISPERSE DYE BY CELLULOSE ACETATE IN THE PRESENCE AND ABSENCE OF BUTANOL. E. P. Tuelings and H. J. White, Jr. (Textile Research Inst.). Textile Research J. 31: 52-56 (Jan. 1961).
The absorption of Disperse Red I by secondary cellulose acetate yarn was studied. The action of the butanol was complex. It caused a minimum in the equilibrium uptake of dye and in the rate of attainment of equilibrium as its concentration in the dyebath increased. Possible reasons for this behavior are discussed. Either competition for absorption sites between dye and butanol or complex formation in the dyebath are advanced as possible reasons for the initial decrease; swelling with increased accessibility is advanced to account for the increase after the minimum. 11 refs. (1094)

SOME DYES SOLUBILIZED BY THIOLSULFATE GROUPS. B. Milligan and J. M. Swan (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 18-25 (Jan. 1961).
The possibility of introducing a reactive solubilizing group into a dye so that the soluble dye could be converted by chemical modification to an insoluble pigment on wool fabrics was studied using 4 thiolsulfato azo dyes ($DSSO_3Na$) and 3 of the corresponding sulfonate dyes (DSO_3Na). Three of the thiolsulfates were found to be unexpectedly good dyes, especially in regard to washfastness. The thiolsulfate dyes under certain conditions of application undergo partial decomposition, so that some dye becomes bound covalently to the wool and some is converted to the symmetrical dye disulfide (DSSD). 13 refs. (1095)

RATE-OF-DYEING EQUATIONS FOR THE FINITE DYEBATH. PART 3. RATE-OF-DYEING EQUATION WITH RAISING OF TEMPERATURE IN THE FINITE DYEBATH. K. Tsuda. Bull. Textile Research Inst. (Japan) No. 54: 23-25 (1960). In Japanese (English summary). Through BCIRA 40: 4499 (1960).
In the previous report (abstr. 1538/60), the equation was solved by Crank's method; in this supplementary note, Hill's solution is used. (1096)

LIGHTFASTNESS OF DYESTUFFS ON TEXTILES. C. H. A. Schmitt (Sandoz Inc.). Can. Textile J. 78: 45-52 (Jan. 20, 1961).
The importance of recognizing the effects of dye selection, dyeing techniques, mill processing procedures, and the use of recommended or accepted standards and testing procedures in achieving lightfastness acceptable to the consumer is discussed in detail. 13 refs. (1097)

VIGOUREUX BECOMES VIGOROUS. E. D. Lupton (H. Fletcher & Co. Ltd). Wool Record 98: 17, 19 (suppl., Dec. 2, 1960).
Brief review of the history of Vigoureux printing. (1098)

SCREEN PRINTING. PART 4. REPRODUCTION PHOTOGRAPHY. A. Franken. Chemiefasern 10, No. 9: 604-607 (1960). In German. Through BCIRA 40: 4514 (1960).
Effects to be obtained, preparation of the patterns, and the equipment used for this method are described. (1099)

RECENT DEVELOPMENTS IN SCREEN PRINTING. M. J. Wadia and M. T. Mehta. Silk Rayon Inds. India 3: 18-21 (Nov. 1960).
The various types of automatic screen printing machines commercially available are described, and methods for screen preparation are reviewed. (1100)

PRINTING OF TEXTILES. Am. Fabrics No. 52: 57-64 (Spring 1960).
An illustrated history of the various fabric printing processes. (1101)

ADVANCES IN THE VIGOUREUX PRINTING OF WOOL. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 136-139 (Dec. 1960).
Experiments on the Vigoureux printing of worsted slubbing using thiodiglycol as a dye solvent indicate that the time of steaming at atmospheric pressure can be substantially reduced to one-half hour or less, and that continuous steaming to fix and develop the dye on the wool appears feasible. (1102)

HARDENABLE SCREEN VARNISH FOR PREVARNISHING AND AUXILIARY VARNISHES FOR SCREEN PRINTING. R. Künzl. Textil-Praxis 15, No. 9: 939-940 (1960). In German. Through BCIRA 40: 4515 (1960).
Suitable varnishes are reviewed, and their application is briefly described. (1103)

EFFECT OF HEAT TREATMENT ON FASTNESS OF LATYL DISPERSE DYES. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 134-135 (Dec. 1960). (1104)

Mechanical processes D3

SCHREINER CALENDERING OF NYLON LACE. G. M. Richardson and G. M. LeClercq (E. I. du Pont de Nemours & Co.). Modern Textiles Mag. 42: 24, 26 (Feb. 1961).
Typical properties of Schreiner calendered Leavers all-nylon and raschel nylon/acetate and nylon/rayon laces are summarized, and processing conditions are outlined. (1105)

METAL DETECTOR FOR SHEARING AND CROPPING MACHINE. B. M. Bhatt (Svadeshi Cotton Mills Co. Ltd). Textile Dig. 21: 115-116 (July-Sept. 1960).
Constructional details of a detector which will indicate and stop the machine when a metallic body passes in the fabric before entering the cutter are described. (1106)

TESTING AND MEASUREMENT E

PROGRESS IN TEXTILE MICROSCOPY. NEW STERIC CONDENSER. K. Ramaszeder. Industrie Textile: 693-696 (Oct. 1960). In French. Through BCIRA 40: 4804 (1960).
After a brief historical review, the author describes the 3-D condenser developed by two Hungarian scientists in 1957, which doubles the resolving power of a microscope, giving a three-dimensional view of the specimen examined. The advantages of the 3-D condenser over the Abbé condenser, the phase-contrast condenser, and the Zeiss condenser are enumerated, and photomicrographs are shown for comparison. (1107)

ZEISS PRECISION EQUIPMENT FOR THE TEXTILE TECHNOLOGIST AND RESEARCH WORKER. VEB Carl Zeiss Jena. Man-Made Textiles 38: 41 (Jan. 1961).
Features of the Zeiss Lanameter projection microscope for measuring fiber diameters, SMXX stereo-microscope, and Leucometer for evaluating cellulose bleaching are briefly noted. (1108)

HANDBOOK OF TEXTILE TESTING AND QUALITY CONTROL. E. B. Grover and D. S. Hamby. Textile Book Publishers, Inc., 250 Fifth Ave., New York. 1960. 614 p. $17.50.
Limited to cotton and synthetic fibers and to the cotton and modified cotton systems of processing. Contents: Introduction to textile testing and quality control; Accuracy of measurement; Presentation of data; Analysis of data; Statistical quality control charts; Analysis by defects; Sample size; Difference between averages; Correlation; Humidity and moisture; Cotton staple length and grade; Cotton fiber length analysis; Fiber strength; Fiber fineness and maturity; Non-lint content and nep potential; Other fiber tests and methods; Staple synthetic fiber tests; Control in opening and picking; Control in the card room; Yarn numbering; Yarn strength; Analysis of strength measurements; Analysis of stress-strain curves; Yarn grade and appearance; Twist testing; Additional tests for fibers and yarns; Approach to evenness measurements; Evenness testers; Evaluation and interpretation of evenness measurements; Control in winding, warping, and slashing; Woven fabric testing, general; Fabric strength; Fabric grading and quality control. References. (1109)

METHOD FOR THE PREPARATION OF THIN MICROTOME SECTIONS OF FIBERS, YARNS, AND FABRICS. H. Kirchberg. Melliand Textilber. 41, No. 9: 1067-1069 (1960). In German. Through BCIRA 40: 4553 (1960).
The embedding technique in a mixture of methyl methacrylic acid ester and polyethylene glycol, with benzoyl peroxide as catalyst, is described, and its advantages are enumerated. Optimum setting conditions of the microtome are pointed out. The hardness of the plastic blocks can be varied as desired and the plastic can be easily dissolved, if necessary, in methylglycol acetate. (1110)

NEW PHOTOMICROGRAPHIC APPARATUS. C. W. Bradley. Photogr. J. 100, No. 8: 251-255 (1960). Through BCIRA 40: 4675 (1960).
The equipment, which has been designed to meet a variety of demands in textile research, and details of the cameras and lighting, are described and illustrated. (1111)

ASTM STANDARDS ON TEXTILE MATERIALS. Nov. 1960. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa. 1960. 946 p. $9.75.
The 1960 edition contains 139 standards of which 24 are new, revised, or have had their status recently changed. (1112)

BOOK OF ASTM STANDARDS. 1960 SUPPL. PART 10. TEXTILES, SOAP, WATER, ATMOSPHERIC ANALYSIS, WAX POLISHES. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia, Pa. 1960. 334 p. (1113)

EFFECT OF AIR HUMIDITY VARIATIONS ON THE RESULTS FROM DETERMINATIONS OF THE COMMERCIAL WEIGHT OF TEXTILES. M. Perroy. Rayonne et Fibres Synthet. No. 9: 937-948 (1960). In French. Through BCIRA 40: 4554 (1960).
It is shown that, in the case of textiles sensitive to slight humidity variations, the latter have a considerable effect on the accuracy of commercial weight determinations. Correction coefficients are calculated for wool, viscose, silk, and cotton for eliminating the effect of these variations and also the error involved by the air being too dry or too humid. It is, however, necessary to take into account the days when the relative humidity of the surrounding air exceeds the fixed limits. (1114)

STANDARD TEXTILE TEST METHODS. Canadian Government Specifications Board, Ottawa, Canada. Sept. 1959. 4-GP-2. Amendments no. 1, 25 Jan. 1960; no. 2, 1 Nov. 1960. $2.00. (1115)

PUBLIC ENQUIRIES OF THE AFNOR CONCERNING THE STANDARDIZATION OF TEXTILE MATERIALS. French Standards Assoc. Industrie Textile: 545-554 (July/Aug. 1960); 623-624 (Sept. 1960). In French. Through BCIRA 40: 4577 (1960).
Proposals are submitted for the standardization of cordage from synthetic filaments (p. 545-549); determination of the variations in fabric dimensions after (1) pressing of wool under a damp cotton pad, and (2) soaking in water at about 20° C (p. 550-552); tearing tests on fabrics (p. 552-554; 623-624). (1116)

STATISTICS IN THE TEXTILE INDUSTRY. L. H. C. Tippett (Brit. Cotton Ind. Research Assoc.). Conference on the Design of Experiments in Army Research Development and Testing 4: 273-289 (1959?). U. S. Army, Office of Ordnance Research, Durham, N. C. OORR59-2.
Principles of statistical design of textile experiments. (1117)

EVOLUTIONARY OPERATION. F. S. Riordan, Jr. (Chemstrand Corp., Pensacola, Fla.). Paper presented at Gordon Research Conference on Statistics in Chemistry and Chemical Engineering, Aug. 24, 1959. 27 p. Available from the author.
Application of Evop programs at Chemstrand, showing procedures, results, and future expectations. (1118)

SLIDE RULE IN TEXTILE INDUSTRY. PARTS 1-5. A. J. Bennett. Textile J. Australia 35: 358-359, 486, 614, 748-749, 873-876 (1960).
This series of articles describes the wide scope of slide rule uses for textile calculations. Where possible, the actual settings of the rule are shown for specific calculations and to provide gage points that serve to condense and simplify laborious calculations. (1119)

Fibers E1

NON-LINT CONTENT MEASUREMENT BY THE ONE-PASS SHIRLEY ANALYZER PROCEDURE. J. V. Shepherd (U. S. Cotton Ginning Research Lab.). (Letter to the editor). Textile Research J. 31: 75-78 (Jan. 1961).
Trash content determinations on cotton comparing a one-pass and two-pass procedure indicated that the former could be used advantageously with a 40% saving in test time and a high degree of accuracy. (1120)

ATTAINMENT OF A DEFINED STATE OF DRYNESS IN ACCURATE DETERMINATIONS OF THE REGAIN OF WOOL SAMPLES. J. G. Downes (C. S. I. R. O. Wool Research Labs.). (Letter to the editor). Textile Research J. 31: 66-67 (Jan. 1961). (1121)

FURTHER OBSERVATIONS ON THE MICROSCOPIC STAINING OF FIBER CROSS-SECTIONS USING PROCION BLACK HGS. K. Kato. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 827-831 (1960). In Japanese (English summary). Through BCIRA 40: 4809 (1960).
Stained fibers were washed with 30% pyridine-water. The staining of cellulose fibers and of Vinylon is not chemical, but there is a chemical fixation with protein fibers. (1122)

NEW CHEMICAL FIBERS AND THE PROBLEMS OF THEIR DIFFERENTIATION. P. A. Koch. Z. ges. Textil-Ind. 62, No. 18: 735-745 (1960). In German. Through BCIRA 40: 4036 (1960).
In this review the author discusses the nature and properties of newly developed viscose, polyolefin, and polyurethane fibers, as well as the problems associated with the customary differentiation methods (staining, cross-section examination, etc.). Special reference is made to the difficulties encountered in the identification of acrylic fibers, where some of the usual identification methods have become obsolete; new possibilities are pointed out. 27 refs. (1123)

ANALYSIS OF FIBER BLENDS. Bull. Inst. Textile France No. 87: 107-110 (Mar./Apr. 1960). In French. Through BCIRA 40: 4034 (1960).
The method described concerns the analysis of binary mixtures of secondary cellulose acetate with other fibers. It is based on eliminating the secondary cellulose acetate from the dehydrated mass of a known blend by dissolution in acetone, and washing, drying, and weighing the residue; its quantity is expressed in percentage of the initial weight of the blend. The proportion of secondary cellulose acetate is obtained by difference. (1124)

CROSS-SECTIONAL STAINING BEHAVIOR RELATED WITH THE DEGREE OF SWELLING IN CELLULOSE FIBERS. K. Kato. J. Soc. Textile Cellulose Inds. Japan 16, No. 10: 831-838 (1960). In Japanese (English summary). Through BCIRA 40: 4810 (1960).
Different treatments affecting the degree of swelling of cellulose rayons were examined in relation to the staining of cross-sections. There is a good correspondence between decrease in degree of swelling and transition from core-staining to skin-staining. A correlation between degree of sorption and degree of swelling was established for different cellulose fibers grouped according to staining behavior. (1125)

NOTES ON THE ACTION OF IODINE ON POLYAMIDES. A. Cannepin and J. Rayon. Bull. Inst. Textile France No. 89: 33-38 (July/Aug. 1960). In French. Through BCIRA 40: 4817 (1960).
A method of measuring the iodine sorption of polyamide fibers has been proposed by certain authors for determining the degree of setting of these fibers. It has been found, however, that the iodine adsorbed may cause an irreversible modification of the polyamide structure and alter the dyeing properties of the fibers. (1126)

TESTING OF SYNTHETIC FIBERS. PART 3. FIBER DAMAGES AND THEIR IDENTIFICATION. E. P. Frieser. Spinner u. Weber 78, No. 10: 691-696 (1960). In German. Through BCIRA 40: 4563 (1960).
Fiber damages caused by mechanical factors, light, chemicals, and heat, and suitable methods for their detection, are reviewed. 24 refs. For previous parts see abstr. 1079/60 and 2463/60. (1127)

MEASUREMENT OF SHRINKAGE ON SYNTHETIC STAPLE FIBERS. F. Dillmann. Chemiefasern 10, No. 10: 660-661 (1960). In German. Through BCIRA 40: 4816 (1960).
The method, developed by Farbwerke Hoechst, consists in projecting the fibers before and after shrinking on a magnified scale on a matt disc so that their length can be measured easily and with sufficient accuracy. The principle and preparation for measurement, measuring devices, shrinking, measurement, and evaluation of the results are described. (1128)

QUANTITATIVE FIBER TESTING. E. P. Frieser. Rev. Textilis 16, No. 6: 13-21; No. 7/8: 33-40 (1960). In Dutch. Through BCIRA 40: 4035 (1960).
A review is made of the literature data on the quantitative analysis of fiber blends. (1129)

Yarns E2

STANDARD VALUES FOR IRREGULARITY IN COTTON SPINNING. Zellweger Ltd, Uster, Switzerland. Textile Manufacturer, Emmott & Co., Manchester, England. 1960. 32 p. 5s 6d [80¢]. (1130)

STUDY AND DETERMINATION OF SPINNING WAVES. A. Valota. Industrie Textile: 599-604 (Sept. 1960). In French. Through BCIRA 40: 4818 (1960).
Means available at present for detecting yarn irregularities are reviewed, with special reference to the trapezoidal Toennisen blackboard, the circular stocking frame, the Uster regularity tester, the variance-length diagram, and the Uster spectrograph. Their efficiency is evaluated. (1131)

DYNAMIC TESTING METHODS FOR TIRE CORD. P. Kainradl and F. Händler. Faserforsch. u. Textiltech. 11, No. 9: 408-427 (1960). In German. Through BCIRA 40: 4829 (1960).
The methods and devices used in the tire and textile industries for measuring the dynamic properties and the durability of tire cords are reviewed. The dynamic elasticity modulus and the loss coefficient are measured by means of resonance testers and devices recording the hysteresis loop. The effects of testing conditions and cord construction on the dynamic properties are shown in some examples. The durability of tires is tested on tire cord bonded to rubber (rubber tests) and the fatigue is determined as residual strength in dependence of running time. (1132)

SOME REMARKS ON THE CHOICE OF TESTING METHODS FOR TIRE CORDS. G. Kemmnitz and W. Meskat. Faserforsch. u. Textiltech. 11, No. 9: 428-433 (1960). In German. Through BCIRA 40: 4830 (1960).
Rules are given according to which testing methods can be selected which permit determination of the factors essential for the wear value of a raw material in the shortest possible time at the least expenditure. These factors are defined and their interrelationships shown in diagrams. The results of two testing methods are compared with those from tire tests. (1133)

DESCRIPTION OF A MEASURING STAND FOR STATIC AND DYNAMIC CORD TESTING. W. Hoffmann. Faserforsch. u. Textiltech. 11, No. 9: 433-443 (1960). In German. Through BCIRA 40: 4831 (1960).
A device and method for examining the stress elongation behavior of Perlon monofilament and viscose cord during static and dynamic stresses are described, and the results are presented in diagrams. 28 refs. (1134)

STUDIES ON TIRE CORDS SUBJECTED TO ALTERNATE DYNAMIC TENSILE STRESSES. H. Meumann. Faserforsch. u. Textiltech. 11, No. 9: 444-456 (1960). In German. Through BCIRA 40: 4832 (1960).
Nylon and rayon cords were examined by means of the dynamic yarn tester developed by Meskat, Rosenberg, and Hoffmann. Evaluation of the hysteresis loop on the basis of some measuring results, and the effect of testing conditions on the physical values of tire cord are discussed. (1135)

STRUCTURE AND QUALITY DETERMINATION OF SMOOTH AND FANCY YARNS. G. Mehnert. Textil-Praxis 15, No. 9: 905-908 (1960). In German. Through BCIRA 40: 4572 (1960).
Methods for examining smooth and fancy yarns (twist, count, material) are reviewed, and directions are given for carrying out the tests. (1136)

Fabrics E3

PROBLEMS OF FABRIC ANALYSIS. J. Kiger. Industrie Textile: 633-651 (Sept. 1960); 731-739 (Oct. 1960). In French. Through BCIRA 40: 4838 (1960).
In this review, the author discusses legal and commercial definitions for felts, nonwoven materials, tricot, and various types of woven fabrics; the composition and basic characteristics of the main fabrics (cotton, wool and animal hair, silk, and manmade fiber); determination of the general characteristics of a material (weight/sq m, weave, number of threads/cm, fiber fineness, dimension variations, loss of substance during washing, tensile strength and breaking elongation), and finishing technology and finishes (determination of the chemical components of a finish and testing the efficiency of certain special finishes). (1137)

COMMITTEE FOR STUDYING THE MECHANICAL TESTING OF TEXTILES. REPORT ON THE COMMITTEE'S WORK. F. Maillard. Bull. Inst. Textile France No. 87: 83-87 (Mar./Apr. 1960). In French. Through BCIRA 40: 4046 (1960).
The report includes studies which were completed this year or are still in progress. They refer to dynamometric testing of fabrics, projects for the standardization of strength tests, length measurement of fabrics, methods for measuring the water permeability of fabrics, evaluation of creasability, and pilling of fabrics. Papers submitted by the Mulhouse Laboratory and some prototypes of devices presented to the Committee are also enumerated. (1138)

PROCEDURES FOR ANALYZING RASCHEL FABRICS. PART 2. H. Rotenstein. Knitted Outerwear Times 30: 7-11 (Feb. 20, 1961).
Techniques for distinguishing raschel fabrics are described. (1139)

YARN IRREGULARITY AND FANCY STRIPES IN WORSTED SUITINGS. W. J. Onions and B. Scott (Leeds Univ.). J. Textile Inst. 51: T1371-T1383 (Dec. 1960).
The effects of mean 2-fold twist and of yarn irregularity upon the appraisal of pick-and-pick cloths are reported. The presence of fancy stripes has important consequences. The spacing of the stripes proves to be important when there is good color contrast between stripes and ground, widely spaced stripes showing up yarn irregularities more than narrow stripes. With a small color contrast, neither the stripe spacing nor the yarn irregularity has a consistent effect on the cloth assessment. 11 refs. (1140)

COMPARISON OF STANDARDS FOR ASSESSING WRINKLING OF FABRICS. Z. M. Sudnik (Brit. Nylon Spinners Ltd). (Letter to the editor). Textile Research J. 31: 78-79 (Jan. 1961).
Ratings on the wrinkling of fabrics after washing and drying using 3-dimensional replicas (see abstr. 3164/60) and Monsanto standards (see abstr. 1369/59) are compared. (1141)

HOW MUCH FASTNESS? C. B. Stevens (Univ. Leeds). Wool Record 98: 9-13 (suppl., Dec. 2, 1960).
The problems involved and developments in testing methods for colorfastness, washfastness, and lightfastness are briefly reviewed. (1142)

REMARKS ON THE PAPER "TESTING OF THE WET CREASING ANGLE BY THE MONSANTO-QUEHL-METHOD". P. Vogel. Melliand Textilber. 41, No. 9: 1132 (1960). In German. Through BCIRA 40: 4589 (1960).
The disadvantages of the Tootal method mentioned in the above paper (abstr. 1088/60) were not observed by the author, who reports his experiences by using the old method and concludes that it is superior to the Monsanto-Quehl method and not less accurate than the latter. (1143)

VARIATION IN WET CREASE RECOVERY TESTED BY MONSANTO AND TBI METHODS. J. T. Marsh. (Letter to the editor). Textile Research J. 31: 68 (Jan. 1961). (1144)

COMPARISON OF METHODS FOR TESTING THE CREASABILITY OF FABRICS. M. Stasiak. Prace Inst. Wlok. 10, No. 1 (33): 49-68 (1960). In Polish. Through BCIRA 40: 4048 (1960).
Four of the analyzed methods for measuring the creasability of fabrics (Hungarian, DIN 53890, Quehl, and ASTM) give accurate results and can be used in textile laboratories for evaluating the creasing angle. The other methods examined (Polish Standard PN-54/5-04737 and the BC method used in the Finishing Department of the Polish Textile Institute) were found to exhibit low sensitivity, inaccuracy, and other disadvantages. (1145)

EVALUATION OF THE CREASABILITY OF FABRICS BY THE CREASE RECOVERY ANGLE METHOD. T. Belleli. Bull. Inst. Textile France No. 87: 97-106 (Mar./Apr. 1960). In French. Through BCIRA 40: 4047 (1960).
The method recommended is the result of the studies of the Committee for studying Mechanical Testing of the French Textile Institute. The tests can be considerably accelerated by operating with ten glass plates instead of two, 5 weights of 500 g instead of one, and 5 squares of paper instead of one; in this way it is possible to effect a series of 5 measurements in 1/4 hr. (1146)

Other E4

STUDIES ON ELIMINATING STATIC ELECTRICITY. PART 2. INSTRUMENT FOR MEASURING STATIC ELECTRICITY. N. Murasaki. J. Textile Machy. Soc. Japan 13, No. 9: 631-636 (1960). In Japanese (English summary). Summary in BCIRA 40: 4126 (1960).
For Part 1, see abstr. 4997/60. (1147)

MEASUREMENT BY RADIOACTIVE ISOTOPES OF THE EFFICIENCY OF DETERGENTS ON ARTIFICIALLY SOILED FABRICS. J. Tolgyessy and T. Robinson. Textil 12: 414-418 (1957). Summary in Chem. Abstr. 55: 2111c (1961). In Czech. (1148)

LIGHT REFLECTANCE FOR DYED TEXTILE MATERIAL AND THE USE OF A PULFRICH PHOTOMETER WITH AN ULBRICHT GLOBE. M. Jagrova and J. Rais. Textil 15, No. 7: 267-272 (1960). In Czech. Through BCIRA 40: 4057 (1960). (1149)

QUANTITATIVE DETERMINATION OF SULFUR AND VAT DYES ON THE FIBER. E. P. Frieser. Spinner u. Weber 78, No. 9: 621-623 (1960). In German. Through BCIRA 4585 (1960).
Trade-names of sulfur and vat dyes are listed, and methods for their quantitative determination on the fiber are reviewed (separation of both sulfur and vat dyes with suitable solvents; stripping of the sulfur dye from the fiber; determination of the sulfur dye after destruction of the cellulose fiber). (1150)

RAPID DETERMINATION OF TOTAL SULFUR IN VISCOSE. J. F. Crow, J. P. Dux, and L. H. Phifer (Am. Viscose Corp.). Fibres and Plastics 22: 10-12 (Jan. 1961).
The method consists of a combustion of the viscose in an oxygen atmosphere in a furnace at a temperature sufficiently high to convert all sulfur compounds to sulfur dioxide. The effluent gases are bubbled through a peroxide solution to oxidize the dioxide to sulfate. The sulfate ion is titrated with barium perchlorate in 80% isopropanol using Thorin as an indicator. 8 refs. (1151)

INFRARED PROCEDURE FOR THE QUALITATIVE AND QUANTITATIVE IDENTIFICATION OF RUBBER AND RELATED POLYMERS USED IN PAPER PRODUCTS. C. P. Puchalsky and J. E. Newell. Tappi 43: 197A-203A (Dec. 1960).
The paper consists of two parts. The first presents a procedure for the separation of polymer from paper, and methods of obtaining and identifying its infrared spectrum. The second portion describes a general infrared quantitative procedure for polymer added to paper, including details for calibration on the spectrophotometer in use. Spectra of 20 polymers are presented. (1152)

SYMPOSIUM ON APPLIED RADIATION AND RADIOISOTOPE TEST METHODS. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia, Pa. 1960. 112 p. STP 268. $3.75.
Includes the following papers of textile interest: Calcium-45-tagged clay as detergency test soil, by J. W. Hensley and C. G. Inks, p. 27-39; Permeability tests for organic sheet materials, by M. Pobereskin, p. 100-103; Radioisotope methods of testing uniformity of coated fabrics, by G. B. Foster and H. R. Chope, p. 104-112. References. (1153)

DETERMINATION OF CARBOXYL IN CELLULOSE. W. K. Wilson and J. Mandel. Tappi 44: 131-137 (Feb. 1961).
Comparison of various methods. 32 refs. (1154)

MILL MANAGEMENT F

LEASING: PRACTICAL SOLUTION TO EQUIPMENT MODERNIZATION. H. T. Sumner. Am. Textile Reptr. 75: 9, 11 (Jan. 26, 1961).
The advantages of equipment leasing for the acquisition of new machinery without depletion of working capital are cited. (1155)

MILL TRUCKS: LEASE OR BUY? A. J. Schoen (Wheels, Inc.). Textile Inds. 125: 64-66 (Feb. 1961).
The two types of truck leasing plans available (finance lease and full maintenance lease) and their respective advantages and disadvantages are described. (1156)

STREAMLINE PURCHASING FOR PROFIT. E. R. Naugle (Am. Thread Co.). Textile Inds. 125: 55-59 (Feb. 1961).
The organization and operation of the Am. Thread Co.'s purchasing department are described. (1157)

HOW EFFECTIVE ARE YOUR SUPERVISORY MEETINGS? L. D. Farrar. Textile Bull. 87: 42, 44 (Jan. 1961).
Pointers for conducting effective meetings. (1158)

Industrial engineering F1

PRACTICAL COSTING IN TEXTILES. E. Stones (Talbot Spinning & Weaving Co. Ltd). Textile Weekly 61 (1): 80-83 (Jan. 13, 1961).
The inadvisability of calculating costs on the basis of individual orders is discussed, and the use of the standard cost method for calculating normal costs is described. (1159)

METHODS-TIME-MEASUREMENT IS EFFECTIVE COST CONTROL TOOL. F. H. Drewes. Am. Textile Reptr. 75: 8-10, 31-32 (Feb. 2, 1961).
The use of MTM to control costs by improving methods and standards for existing operations and by establishing optimum methods and standards for operations before production begins is explained. (1160)

OPERATIONS RESEARCH: A PROGRESS REPORT. J. C. Hetrick (Arthur D. Little, Inc.). Chem. Eng. 68: 137-143 (Jan. 23, 1961).
The application of operations research to basic problems in the process industries is illustrated by means of several case histories. (1161)

PROBLEMS IN BASIC OPERATIONS RESEARCH METHODS FOR MANAGEMENT. R. W. Cabell and A. Phillips. John Wiley & Sons, New York. 1961. 110 p. $3.95.
There are 37 problems, involving the following types of application: linear programming by various methods, inventory controls, dynamic programming, queuing, replacement policy, variance analysis, sequencing, routing, and plant location. Two textile industry problems are included. (1162)

VISUAL PRODUCTION CONTROL SYSTEM. A. J. Gagnon, Jr. (Argonne Worsted Co.). Textile World 111: 58-60 (Feb. 1961).
A record system based on the use of Remington-Rand Sched-U-Graph cards is described. (1163)

N. C. STATE COLLEGE QUALITY AUDIT PROGRAM. D. S. Hamby. Textile Bull. 87: 52-57 (Jan. 1961).
The purposes of and methods used in the quality audit program offered by N. C. State College as a service to the textile industry of North Carolina are described. Typical data and results are included. (1164)

Plant and equipment F2

AIR CONDITIONING IN THE TEXTILE INDUSTRY. M. M. Ratmanov. Tekhnol. Tekstil. Prom. No. 3 (16): 144-153 (1960). In Russian. Through BCIRA 40: 4063 (1960).
An experimental conditioning installation is described in detail, and a diagram is given. (1165)

PROCESS CONTROL AND AUTOMATION. T. J. Williams (Monsanto Chem. Co.). Ind. Eng. Chem. 53: 166-168 (Feb. 1961).
This review covers the periods Dec. 1, 1959 to Nov. 30, 1960 for domestic publications and Oct. 1, 1959 to Sept. 30, 1960 for foreign ones. 110 refs. A more comprehensive bibliography is available from Editor, I/EC, 1155 Sixteenth St., N. W., Washington 6, D. C. for $1. (1166)

THOUGHTS ON COMPLETE AUTOMATION IN THE TEXTILE INDUSTRY. G. G. Lorenz. Spinner u. Weber 78, No. 9: 604-607 (1960). In German. Through BCIRA 40: 4599 (1960).
The principles of electronic plant control are outlined. (1167)

FLOOR-LEVEL CLEANING IN TEXTILE MILLS. Parks-Cramer Ltd. Textile Weekly 61 (1): 76, 83 (Jan. 13, 1961).
Features of the semi and fully automatic TravelVac vacuum sweeping equipment are noted. (1168)

TESTS FOR DETERMINING THE EFFICIENCY AND THE ELECTROSTATIC CHARGE OF BELTS. J. H. Kimman. Tex 19, No. 8: 475-477 (1960). In Dutch. Through BCIRA 40: 4600 (1960).
The electrostatic charge was measured on various types of belts by means of the Statometer H 1407. The experimental results available are insufficient to permit compilation of generally applicable values. (1169)

USE OF PNEUMATIC DEVICES AS AUTOMATION MEANS IN TEXTILE PRODUCTION. K. B. Andersen. Tidsskr. Textiltek. 8, No. 9: 133-139 (1960). In Danish. Through BCIRA 40: 4061 (1960).
This is the first of two articles dealing with the use of pneumatic devices in textile machinery operating on the compressed air principle. (1170)

ELECTRICAL EQUIPMENT FOR THE TEXTILE INDUSTRY. Papers presented at the AIEE conference, Nov. 10-11, 1960. Sponsored by the Textile Industry Comm. of the Industry Div. and the Dept. of Electrical Engineering, School of Engineering, N. C. State College, Raleigh, N. C. 1960.
Contents: Textile School research, by H. A. Rutherford; New electrical applications through textile research, by J. C. Hogg; Electric temperature and humidity control systems, by R. T. Waite; Warper drive systems, by J. A. McCoig; Use of metallic raceways for grounding of distribution systems, by R. H. Lee; Silicon controlled rectifiers for regulators, by W. E. Cronquist; Magnetic amplifier controlled silicon diode power supplies for dc motors, by F. T. Bailey; Dynamic balancing, by J. K. Whitfield; Use of the stroboscope in the textile plant, by M. J. Fitzmorris; What the AIEE recommended practice means to the consulting engineer, by D. McConnell; What the AIEE recommended practice means to the textile machinery manufacturer, by R. H. Clark and V. F. Sepavich; What the AIEE recommended practices can mean to the textile industry, by H. S. Colbath. (1171)

MATERIALS HANDLING. J. R. Arwood (Continental Grain Co.). Ind. Eng. Chem. 53: 159-160 (Feb. 1961).
Annual review. 25 refs. (1172)

CASTER-MOUNTED MATERIALS HANDLING UNITS. Textile Bull. 87: 62 (Jan. 1961).
Pointers on care and maintenance. (1173)

APPLICATIONS OF CONTROL TECHNIQUE IN THE TEXTILE INDUSTRY. G. Kessler. Melliand Textilber. 41, No. 8: 963-966; No. 9: 1069-1072 (1960). In German. Through BCIRA 40: 4062 (1960).
Principles and application of regulating devices in controlling the movement of a continuous fabric length, the moisture in a tenter, the speed of mercerizing machines, the drawing of synthetic fibers, and the winding mechanism on sizing machines are described and discussed. (1174)

TEXTILE MILL MAINTENANCE. PART 8. F. H. Slade. Textile Mfr. 87: 3-7 (Jan. 1961).
Pointers on the maintenance of equipment relating to atmospheric control (condensers, air washers, heater batteries, fans, air filters, dampers, and control system). (1175)

SCIENCES G

Chemistry G1

NUMBER AND SIZE DISTRIBUTION OF PARTICLES IN CELLULOSIC SOLUTIONS. L. R. Parks and K. A. Jurbergs (Buckeye Cellulose Corp.). J. Appl. Polymer Sci. 4: 193-199 (Sept./Oct. 1960).
In the work reported herein, a commercially available particle counter (Coulter counter) which operates on electronic principles has been applied with considerable success to cellulosic solutions. The instrument permits determination of cellulosic particles sizes and size distributions in the size range of real interest to cellulose workers (4-50 μ) and over an even wider range with other accessories. Counts on viscose solutions before and after filtration were found to vary with species, pulp type, processing conditions, and surfactant. Coulter counts on acetate solutions paralleled microscopic values but were less laborious. The instrument was also used to evaluate filter media for these solutions. 10 refs. (1176)

ANALYSIS OF DRYING CURVES OF CELLULOSE FIBERS. K. Lauer. Tappi 44: 122-127 (Feb. 1961).
13 refs. (1177)

STRUCTURAL CHANGES DURING AGING OF ALKALI CELLULOSES. K. Lauer and H. Chao-Wu. Tappi 44: 127-130 (Feb. 1961).
7 refs. (1178)

HALOGENS MULTIPLY POLYOLEFIN VERSATILITY. Chem. Week 88: 53-54 (Feb. 11, 1961).
Progress in the halogenation of polyolefins to modify their physical and chemical properties is briefly reviewed. (1179)

REVERSIBLE PHENOMENA ASSOCIATED WITH A HELIX-COIL TRANSITION IN KERATIN. A. R. Haly and J. W. Snaith. Biochim. Biophys. Acta 44, No. 1: 180-182 (1960). Through BCIRA 40: 4666 (1960).
It has been found that the first-stage contraction, birefringence, and x-ray diffraction pattern of wool keratin treated with aqueous lithium bromide solution all show an abrupt change over the same small range of concentration of the bromide. This observation is considered in relation to the possible structure of the keratin molecule. (1180)

TOLUENE DIISOCYANATE AND URETHANE POLYMERS. S. E. Berger, F. L. Cataldo, F. J. Dwyer, and H. Stone. Fibres and Plastics 22: 16-20 (Jan. 1961).
The effect of the 2,6-isomer content of toluene diisocyanate on prepolymer foaming characteristics and the physical properties of the resultant foam was investigated. Since higher rates of gelation were found with increased levels of this less reactive isomer, as well as by eliminating postheating, and both are associated with more linear polyurethane molecules, it is concluded that the reactivity of the foaming system is largely controlled by the steric availability of the reactive sites of the polyurethane. (1181)

POLYURETHANE FOAMS: METHODS OF PRODUCTION, PROPERTIES, AND APPLICATIONS. J. M. Buist, R. Hurd, and A. Lowe (Imp. Chem. Inds. Ltd). Chem. & Ind. No. 51: 1544-1558 (Dec. 17, 1960). (1182)

STABILIZATION OF VISCOSE RAYON BY HEAT TREATMENT BY MEANS OF AMMONIACAL PRESWELLING BATH. K. Kanamaru (Tokyo Inst. Technol.). J. Appl. Polymer Sci. 4: 1-9 (July/Aug. 1960).
In continuation of a previously reported experimental study on stabilizing viscose rayon by heat treatment, in which acid baths were used as the preswelling agents, further experiments were performed in which ammonium hydroxide solutions served as the preswelling agent. From the effects on dynamic modulus, breaking strength, and degree of crystallinity, it is concluded that the use of an ammoniacal preswelling bath is superior to the use of an acid bath. 7 refs. (1183)

X-RAY DIFFRACTION BY HAIRS AND FEATHERS. PART 1. K. Venkateswarlu and S. P. Pillai (Annamalai Univ.). J. Appl. Polymer Sci. 4: 175-178 (Sept./Oct. 1960).
A study of the x-ray diffraction of tail hairs of mammals, both domestic and wild, and feathers of birds is presented. The pattern due to buffalo hair is unique in that about six Debye-Scherrer rings have been recorded in addition to the usual pattern of α-keratin and are explained as due to crystallites in the fiber arranged at random about the fiber axis. The feather pattern resembles more that of β-keratin. A comparison of the patterns is made. 7 refs. (1184)

X-RAY DIFFRACTION BY HAIRS AND FEATHERS. PART 2. K. Venkateswarlu and S. P. Pillai (Annamalai Univ.). J. Appl. Polymer Sci. 4: 179-180 (Sept./Oct. 1960).
The tail hairs of the various mammals discussed in Part 1 were treated with different chemicals for different times and their x-ray diffraction photographs taken. The chemical treatment was intended mainly for the study of buffalo hair because of the peculiar pattern it exhibits. 5 refs. (1185)

SURVEY OF THE EFFECT OF LIGHT ON COTTON AND OTHER CELLULOSIC FABRICS. H. M. Robinson and W. A. Reeves (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 1-15 (Jan. 9, 1961).
The purpose of this paper is to supplement two previous surveys which covered the literature to April 1948. The present bibliography consolidates work reported from April 1948 through 1958. A few earlier papers are included which report pioneer work which has since been reviewed and continued. Also included are a few particularly pertinent papers which were published early in 1959. 131 refs. (1186)

COLLOIDS AND SURFACE BEHAVIOR. A. L. Draper (Texas Technol. Coll.). Ind. Eng. Chem. 53: 169-171 (Feb. 1961).
This review deals with the field of colloids and surface behavior from late 1958 through early 1960. Topics excluded are: ion exchange, chemisorption and catalysis, chromatography, polymers, and operations. 67 refs. A more comprehensive survey of the literature of nearly 700 references in addition to those published here is also available from Editor, I/EC, 1155 Sixteenth St., N.W., Washington 6, D.C. for $1. (1187)

VISCOELASTIC PROPERTIES OF POLYMERS. J. D. Ferry. John Wiley & Sons, New York. 1961. 482 p. $15.00.
Contents: The nature of viscoelastic behavior; Illustrations of viscoelastic behavior of polymeric systems; Exact interrelations among the viscoelastic functions; Approximate interrelations among the viscoelastic functions; Experimental methods for viscoelastic liquids; Experimental methods for soft viscoelastic solids; Experimental methods for hard viscoelastic solids; Experimental methods for bulk measurements; Experimental methods for fibers; Molecular theory; Dependence of viscoelastic behavior on temperature; The transition zone from rubberlike to glasslike consistency; The rubbery state; The glassy state; Crystalline and filled polymers; Concentrated solutions and plasticized polymers; Gels and cross-linked solutions; Viscoelastic behavior in bulk (volume) deformation; Illustrative applied calculations. References. (1188)

GRAPHICAL EVALUATION OF THE HYSTERESIS OF HIGH POLYMERS. G. Kemmnitz. Faserforsch. u. Textiltech. 11, No. 9: 457-463 (1960). In German. Through BCIRA 40: 4833 (1960).
A method is described, by means of which the course of the phase-angle can be determined from the course of the hysteresis loop. It is found that, for high polymers, the phase-angle consists of a time-constant and time-variable component. Several relationships were established, which describe with good approximation the phase-angles determined up to now experimentally. The interpretation of the phase-angle curve enables characterization of the stress type and the deformation behavior of the samples. The course of the phase-angle as a function of temperature is illustrated by two examples. (1189)

NEW SURFACTANTS LISTED. PARTS 3, 4, AND 5. J. W. McCutcheon. Soap Chem. Specialties 36: 64-72 (Dec. 1960); 37: 50-58 (Jan. 1961); 56-63 (Feb. 1961).
For parts 1 and 2, see abstr. 4566/60 and 4994/60. (1190)

MOISTURE PERMEABILITY OF POLYMERS. EFFECT OF SYMMETRY OF POLYMER STRUCTURE. S. W. Lasoski, Jr. (E.I. du Pont de Nemours & Co.). (Letter to the editor.) J. Appl. Polymer Sci. 4: 118-119 (July/Aug. 1960).
Data on the effects of short-chain branching on the water vapor permeability of vinyl-type polymers are presented. Short chain branches substituted in an unsymmetrical manner on linear polyethylene molecule, as represented by polypropylene and polyvinyl chloride structures, lead to an increase in water vapor permeability. Such branches substituted in a symmetrical manner, represented by the linear structures of polyisobutylene and polyvinylidene chloride, lead to a decrease in permeability. 6 refs. (1191)

Physics G2

STUDY OF THE TRIBOELECTRIC PROPERTIES OF VARIOUS KNITTED SYNTHETIC FABRICS. G. Goudet and P. Laurenceau. J. Phys. Radium 21, Suppl. No. 7: 87A-91A (1960). Summary in Chem. Abstr. 55: 2113c (1961). (1192)

STATIC ELECTRIFICATION OF FILAMENTS: EFFECT OF FILAMENT DIAMETER. D. J. Montgomery, A. E. Smith, and E. H. Wintermute (Mich. State Univ.). Textile Research J. 31: 25-31 (Jan. 1961).
A study was made of the effect of filament diameter on the charge transferred between filaments rubbed together under controlled ambient and mechanical conditions. The experimental findings are consistent with the hypothesis that the charge transferred is proportional to the true area of contact (that is, the area over which interpenetration of molecular fields occurs) swept out on the object of lower conductivity. 9 refs. (1193)

SOILING OF POLYACRYLONITRILE FIBERS. R. Mönch. Przeglad Wlok. 14, No. 6: 308-311 (1960). In Polish. Through BCIRA 40: 4594 (1960).
Soiling in dependence of time of contact, dirt concentration, fat content, dyeing, and electrostatic dirt attraction was studied on garments from polyacrylonitrile fibers as compared with those from cellulosic fibers. The results obtained lead to the conclusion that the soiling of polyacrylonitrile garments is due to the electrostatic attraction of dirt rather than to direct contact with it. 20 refs. (1194)

MISCELLANY H

DICTIONARY OF TEXTILE FINISHING AND RELATED MATTERS. 2d ed. [LEXIKON: TEXTILVEREDLUNG UND GRENZGEBIETE]. C.-H. Fischer-Bobsien. Herausgeber C.-H. Fischer-Bobsien, Dülmen-Daldrup, West Germany. 1960. 2386 p. $28.95.
This compendium of information for finishers includes notes on dyes, chemicals, proprietary products, fibers, processes, machines, terms and units, firms, authors, books, periodicals, societies, schools, research organizations, etc. Many of the notes include literature references and the book now has a more international character than the first edition (1950, 552 p.). (1195)

SECOND INTERNATIONAL CONFERENCE ON REINFORCED PLASTICS. Fibres and Plastics 22: 49-51, 54 (Feb. 1961).
Summaries of selected papers. (1196)

WHITHER NATURAL FIBERS? Am. Fabrics and Werner Textile Consultants. Am. Fabrics No. 52: 49-53 (Spring 1961). (1197)

PLASTICS: THE YEAR 1960 IN REVIEW. Modern Plastics 38: 141-156, 220-221 (Jan. 1961).
Review with 590 references. (1198)

WOOL TEXTILE INDUSTRY IN THE SOVIET UNION. World Wool Digest 11: 221-223, 229-231 (1960). (1199)

TAPESTRY WEAVING: REVIVAL OF AN ANCIENT ART FORM. Am. Fabrics No. 52: 66-70 (Spring 1961). (1200)

HANDBOOK OF FIBROUS MATERIALS. H. Mileaf (McGraw-Hill Book Co.). Wright Air Development Div., Wright-Patterson Air Force Base, Ohio. Oct. 1960. 474 p. WADD tech. report 60-584.
This report contains the summarized and consolidated information extracted from WADD Technical Reports covering several phases of fibrous materials research. The report is divided into sections covering the pertinent facets of fibrous material information. Fairly complete information is supplied on various phases of basic design data, sewability, friction, abrasion and weather resistance, porosity and air permeability, temperature properties and chemical resistance of different yarns, cords, webbings and fabrics. Some information is also supplied on sunlight and weather resistance, tear resistance, radiation, aging and electrostatic properties, stiffness, flexibility, elongation, elastic recovery and energy absorption. 19 refs. (1201)

RECLAIMED RESOURCES. S. Schapiro & Sons, Inc., 1650 Union Ave., Baltimore, Md. 1961. 67 p.
Sources of textile wastes and the uses to which they are put are given, as well as an analysis of the textile waste material industry. A list of the most important grades of material handled by the company includes the designation of corresponding grades in French, Italian, German, and Spanish for the guidance of overseas buyers. (1202)

11TH ANNUAL REPORT OF THE COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION. Canberra, Australia. 1959. 181 p.
Sheep, p. 47-57. Wool, p. 90-95. (1203)

MANUFACTURE OF TEXTILE MACHINERY IN U.K. G. R. Joshi. Indian Textile J. 71: 60-67, 94 (Nov. 1960).
The general pattern of organization and practices used in the manufacture of textile machinery in England is described. (1204)

AUTOMATIC LOOMS. N. L. Desai. Indian Textile J. 70: 648-652 (Sept. 1960).
The author advances arguments based on economic and quality factors for introducing automatic looms in the Indian textile industry. (1205)

AMERICAN TEXTILE INDUSTRY IN THE ECONOMIC, POLITICAL, AND SOCIAL ATMOSPHERE OF THE 1960s. J. D. Miller (Crown Cotton Mills). Proc. So. Textile Methods Standards Assoc.: 32-36 (Fall 1960). (1206)

TEXTILE RESEARCH ACHIEVEMENTS IN 1960. PART 1. J. B. Goldberg. Textile Inds. 125: 76-81 (Jan. 1961). (1207)

TEXTILE RESEARCH ACHIEVEMENTS IN 1960. PART 2. J. B. Goldberg. Textile Inds. 125: 82, 158-161 (Feb. 1961).
Wet processing, developments in fabrics, and textile instruments and methods are reviewed. (1208)

REVIEW OF TEXTILE RESEARCH. P. M. Strang. Am. Textile Reptr. 75: 21-22, 45-48 (Jan. 26, 1961).
Trends in textile research in the cotton industry since the 1920s, the factors influencing the industry's approach towards research, and the need for a dynamic program for the future economic and technological growth of the industry are discussed. 7 refs. (1209)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

AUTOMATIC BALE TRIP MECHANISM FOR BAGASSE BALERS. H. S. Toups, Jr., L. P. Braud, and R. H. Braud (to Thibodaux Boiler Works, Inc.). USP 2 969 013, Jan. 24, 1961. (1210)

Manmade fibers A2

IRRADIATION OF NYLON. E. J. Lawton (to Gen. Elec. Co.). USP 2 967 137, Jan. 3, 1961.
High energy irradiation of nylon at elevated temperatures results in a cross-linked, stable nylon having reduced elongation. (1211)

YARN PRODUCTION B

HIGH BULK CELLULOSE ACETATE TOW. J. Swerdloff, E. B. Larsen, and A. J. Troeleman (to Celanese Corp.). USP 2 968 857, Jan. 24, 1961.
Crimped tow suitable for use in filling or stuffing pillows and mattresses is prepared by spinning the filaments through jets with noncircular apertures and then subjecting them to two crimping operations in stuffer boxes to impart a three dimensional crimp. (1212)

Carding and combing B2

FEED ROLL ARRANGEMENTS IN COMBING MACHINES. J. J. Rieter & Cie AG. BP 845 948, Aug. 24, 1960. Through BCIRA 40: 4743 (1960).
In a rectilinear comber having a swinging mechanism for top and bottom nippers, movement is imparted to the feed roll by the relative movements of the nippers in the same combing head. (1213)

Drawing and roving B3

SLIVER BALLER HEAD. J. H. Selby (to Warner & Swasey Co.). USP 2 968 446, Jan. 17, 1961. (1214)

Spinning, winding, twisting B4

BEARING FOR HIGH SPEED SPINNING AND TWISTING SPINDLES. H. P. Staufert (Germany). USP 2 969 262, Jan. 24, 1961.
Bearing structure in which a single chamber both forms an integral part of the spindle bearing and holds the damping agent. (1215)

NICKEL PLATED SPINNING RING WITH CASE-HARDENED STEEL CORE. J. H. Foard and W. A. Kluttz. USP 2 970 425, Feb. 7, 1961. (1216)

SEPARATORS ON RING SPINNING AND RING TWISTING FRAMES. J. J. Rieter & Cie AG. BP 845 450, Aug. 24, 1960. Through BCIRA 40: 4746 (1960).
One end of the separator is connected resiliently to the ring rail, e.g. by means of a compression spring around part of the mounting screw. (1217)

SPINNING AND TWISTING SPINDLES. Spintex Spinnerei Maschinenbau GmbH. BP 845 669, Aug. 24, 1960. Through BCIRA 40: 4745 (1960).
The spindle bearing is fitted internally in a neck portion of the spindle casing and the separate footstep bearing is fitted internally in a body portion of the casing, in which it is located by a sleeve that extends nearly to the spindle bearing and is swingably supported by a head of plastic material. (1218)

CENTRIFUGAL SPINNING MACHINE FOR COTTON. First Deputy Minister of the Rumanian Ministry for Light Industry. BP 845 882, 845 883, 845 884, 845 885, 845 886, 845 887, 845 888, and 845 889, Aug. 24, 1960. Through BCIRA 40: 4751-4756 (1960).
A drafted roving is fed into a centrifugal thread holder mounted on the vertical shaft of a motor. It is spun on the inner wall and fills the holder in successive stages from the bottom to the top and back again. When the holder is full, the feed is stopped and winding into a bobbin on a thread guide is initiated manually. If a thread breaks during winding a special tool is used to pick up the loose end and transfer it to the bobbin. (1219)

TIMING CONTROL SYSTEM FOR SPINNING FRAME SLUBBING MECHANISM. L. H. Safley (to Chemstrand Corp.). USP 2 962 771, Dec. 6, 1960. (1220)

TOP ROLL SUPPORT FOR SPINNING FRAMES. K. P. Swanson. USP 2 965 934, Dec. 27, 1960.
Mechanism anchored to the bottom rolls and provided with means for resiliently pulling and holding the top and bottom rolls together in strand gripping relation without the need for weighting the bottom rolls or their supports. (1221)

BRAKE MEANS FOR SPINNING AND TWISTING SPINDLES. C. Grindler (to J. J. Rieter & Co. Ltd). USP 2 966 025, Dec. 27, 1960.
Interior type brake in which the brake shoes act on the inside of the rotating part of the spindle. (1222)

YARN TWISTING APPARATUS. E. K. Bauer (to Am. Viscose Corp.). USP 2 970 424, Feb. 7, 1961.
Means for preventing undesirable loop formation in a twisted yarn when twisting is discontinued before the strand is completely withdrawn from the supply package. (1223)

PLASTIC TRAVELERS WITH WEAR RESISTANT INSERTS. L. H. Morin (to Coats & Clark Inc.). USP 2 966 026, Dec. 27, 1960.
Hourglass-shaped insert for the hook-shaped end of the traveler for yarn engagement. (1224)

PLASTIC QUILLS OR BOBBINS. C. Van Deventer III (to Nat. Plastics Inc.). USP 2 967 026, Jan. 3, 1961.
The bobbin is molded of fiber reinforced plastic and has a metallic sheath attached to the butt and part of the body during molding. The sheath is incorporated for the purpose of cooperation with the feeler mechanism of an automatic loom. (1225)

PLASTIC TRAVELER WITH FACING SHELL OF WEAR RESISTANT MATERIAL. L. H. Morin (to Coats & Clark Inc.). USP 2 968 908, Jan. 24, 1961. (1226)

LAYOUT OF SPINNING MACHINES IN A ROW. J. J. Keyser (to Schiess AG). USP 2 969 635, Jan. 31, 1961.
Each two adjacent spinning machines are braced and connected to each other by means of yokes following a serpentine-like path and disposed above the machines. (1227)

WASTE SEGREGATION SPOOL FOR DRAW TWISTER. R. A. Binns (to Allied Chem. Corp.). USP 2 970 789, Feb. 7, 1961. (1228)

Yarns B5

STRETCH NYLON YARN. F. C. Field, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 962 794, Dec. 6, 1960.
Non-helical loops, removable by extension, are formed by passing continuous filament yarn through a turbulent fluid zone, stabilizing the loops by exposure of the yarn to setting before extension, extending the yarn to distort the loops, and relaxing the yarn. (1229)

RAYON TIRE CORD FIBER LUBRICANT RESISTANT TO OXIDATION. K. T. Wentworth (to Am. Viscose Corp.). USP 2 964 470, Dec. 13, 1960. (1230)

FILAMENT OR SPUN STAPLE YARNS WITH ALTERNATE SECTIONS OF OPPOSITE TWIST. W. A. Seem and N. J. Stoddard (to Textile Licensing Co.). USP 2 966 775, Jan. 3, 1961.
With these yarns, stretch hosiery free of herringbone patterns can be knitted on machines with single yarn carriers and crepe fabrics can be woven using only one shuttle. (1231)

MANUFACTURE OF VOLUMINOUS YARNS. D. W. Groombridge, S. G. Hawtin, and J. Downing (to Brit. Celanese Ltd). USP 2 968 834, Jan. 24, 1961.
The yarns are formed of crinkled filaments combined with support threads which are formed simultaneously employing only a single spinning jet. (1232)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

TRAVERSING PRESSURE THREAD GUIDE. R. D. Neal (to Am. Enka Corp.). USP 2 970 790, Feb. 7, 1961.
The rounded control head of the guide is provided with a V-shaped notch pointing in the direction of package rotation and a positioning bar connected to the control head for maintaining a predetermined angle of approach of yarn to the V-shaped notch. (1233)

WARP BEAM. S. A. Harris. BP 838 364, June 22, 1960. Through BCIRA 40: 4490 (1960).
The invention relates particularly to warp beams capable of withstanding the great pressures generated in winding synthetic filament yarns. The flanges, barrel, and connecting pieces are screw-threaded, and a flange can be fixed in one of a number of angular positions relative to the barrel according to the way in which the connecting piece is screwed home. (1234)

WARPING MACHINES. P. E. R. Coleman (to Crowther Ltd). BP 844 601, Aug. 17, 1960. Through BCIRA 40: 4489 (1960).
To maintain constant the level at which yarns are delivered to a beam, the beam is mounted on supports that can be raised or lowered by electric power in response to the action of a feeler that engages the windings on the beam and cooperates with cam mechanism that operates the switch. (1235)

APPARATUS FOR CONTROLLING YARN FEED RATE. Soc. d'Applications Gen. d'Elect. & de Mecanique. BP 844 806, Aug. 17, 1960. Through BCIRA 40: 4487 (1960).
The yarn in running from one package to another makes driving contact with an electrically conducting, grooved pulley connected to one pole of an external circuit that controls the rate of feed between an upper and a lower limit. (1236)

WINDING APPARATUS. L. A. Woolfson, J. Biggs, and V. E. Gough (to Dunlop Rubber Co. Ltd). BP 845 190, Aug. 17, 1960. Through BCIRA 40: 4488 (1960).
To wind tire cord under constant tension, the apparatus includes a variable-diameter wheel comprising peripheral segments that move radially in or out according to changes in tension from a predetermined value and thereby alter the transmission ratio between the wheel and the feed pulley. (1237)

TENSION DEVICE FOR CONTROLLING THE UNWINDING OF A THREAD. W. B. Pegram (to Intern. Resistance Co.). USP 2 966 315, Dec. 27, 1960. (1238)

COIL STARTING DEVICE FOR CROSS-WINDING MACHINES. W. Küpper (to Walter Reiners). USP 2 969 196, Jan. 24, 1961.
The new coil is started by means of a clamping device, mounted on the head of the winder spindle, which is acted on by centrifugal force to shift from a yarn catching and clamping position to a yarn releasing position. (1239)

YARN METERING DEVICE FOR BOBBIN WINDING MACHINE. W. Weber and H. Grein (to Barmer Maschinenfabrik AG). USP 2 969 197, Jan. 24, 1961. (1240)

YARN GUIDING DRUM FOR CROSS-WINDING MACHINES. H. Wolff (to Walter Reiners). USP 2 969 198, Jan. 24, 1961. (1241)

SIZE BOX. G. L. Ball and J. Hamrick (to Batson-Cook Co.). USP 2 969 579, Jan. 31, 1961.
Roll arrangement which permits the yarn to pass in a free path of travel from the nip between a size roll and a squeeze roll without contact of the yarn with the surface of either roll after delivery from the nip. (1242)

Weaving C2

WEFT BOBBINS. Ruti Machy. Works. BP 845 455, Aug. 24, 1960. Through BCIRA 40: 4765 (1960).
The ringless head of a bobbin for automatic looms is formed of nonmetallic material (e.g. plastic or rubber) and is slipped onto the separate shank and fixed by glue. Various modifications are illustrated. (1243)

WEFT YARN CONTROL FOR WEFT REPLENISHING LOOM. A. Cederlund (to Crompton & Knowles Corp.). USP 2 965 138, Dec. 20, 1960.
In a loom for weaving with weft yarns having different elastic qualities, means for preventing the outgoing yarn (whether elastic or nonelastic) from being drawn into the shed after it has been cut at the shuttle eye on a weft replenishing beat of the loom. (1244)

LOOM WARP TENSION DEVICE. E. Pfarrwaller (to Sulzer Freres SA). USP 2 966 930, Jan. 3, 1961.
The device is particularly suitable for looms which can be adjusted for weaving different width fabrics. (1245)

LOOM PICKER. W. W. Downs (to Armstrong Cork Co.). USP 2 968 322, Jan. 17, 1961.
Polyurethane body and replaceable polyvinyl alcohol insert for engagement with shuttle. (1246)

WARP CORD TENSIONING IN STICK WEAVING LOOMS. F. H. Blake. USP 2 969 813, Jan. 31, 1961. (1247)

AUTOMATIC STOP MOTION FOR NARROW FABRIC LOOMS. A. W. Heym. USP 2 969 814, Jan. 31, 1961. (1248)

AUTOMATIC WEFT YARN TENSIONING DEVICE. A. W. Campbell. USP 2 970 615, Feb. 7, 1961.
The shuttle is provided with a pivotally mounted, gravity controlled weight which rests upon the yarn to maintain the necessary tension. (1249)

Knitting C3

HOSIERY. J. C. Buckreus (to U. S. Trust Co.). USP Reissue 24 922, Jan. 10, 1961. Original No. 2 825 215, Mar. 4, 1958.
A heel and toe free of visible seams are produced in full-fashioned hosiery by knitting a seamless tube, closing the end by a seam, and shaping a foot portion with the seam located entirely on the bottom. (1250)

LIVELY NYLON YARN FOR STRETCHABLE KNIT FABRIC. W. A. Wood, Jr. and H. M. Strub, Jr. (to Duplan Corp.). USP 2 962 857, Dec. 6, 1960.
Nylon yarn is highly twisted and steamed to deaden part of the liveliness and inherent shrinkage of the yarn so that it may be easily handled during knitting. The resultant fabric is stretchable and torque free with less loop distortion and consequently free of objectionable patterned or herringbone effects. (1251)

DEVICE FOR KNITTING BACKED FABRICS WITH BINDING THREAD ON LATCH NEEDLE CIRCULAR KNITTING MACHINES. J. Deiss, J. Dvorák, F. Barton, and Z. Koristek (to Výzkumný Ustav Tvárečich). USP 2 966 782, Jan. 3, 1961. (1252)

STRETCH HOSIERY. H. Knohl (to Kendall Co.). USP 2 962 885, Dec. 6, 1960.
Self-supporting sheer hosiery formed primarily of fine nonelastic yarn, e.g. nylon or silk, incorporating relaxed, fine stretchable, retractive yarns extending coursewise and defining, in their relaxed condition, the relaxed shape of the stocking. (1253)

ELECTRONIC SPEED CONTROL CIRCUITS FOR CIRCULAR HOSIERY MACHINES. J. T. McKibbin and W. Larkin (to Singer-Fidelity, Inc.). USP 2 966 783, Jan. 3, 1961. (1254)

CIRCULAR KNITTING MACHINE OF THE SUPERIMPOSED NEEDLE CYLINDER TYPE. H. S. Burdett (to G. Stibbe & Co. Ltd). USP 2 966 784, Jan. 3, 1961.
Magnetic latch opener for insuring at least partial opening of relevant latches during needle transfer from one cylinder to the other. (1255)

FULL-FASHIONED KNITTED BRASSIERE. C. D. Goff and W. S. Detwiler (to West Grove Hosiery Mills). USP 2 966 785, Jan. 3, 1961. (1256)

ELECTRICAL BRAKING CONTROL CIRCUIT FOR TRICOT KNITTING MACHINES. N. Kontaxes (to Textile Mach. Works). USP 2 967 411, Jan. 10, 1961. (1257)

THROAT PLATES FOR CIRCULAR HOSIERY MACHINES. K. E. Hoefer. USP 2 967 412, Jan. 10, 1961.
The plate has a recessed channel with a removable insert in the only portion coming into frictional contact with the yarn. (1258)

YARN FEED AND CONTROL MEANS FOR LARGE DIAMETER MULTIFEED CIRCULAR KNITTING MACHINES. A. T. D. Jackson and E. L. Farmer (to Mellor Bromley & Co. Ltd). USP 2 967 413, Jan. 10, 1961. (1259)

METHOD AND APPARATUS FOR CONTINUOUSLY DRAWING OFF CHAIN KNITTED ARTICLES. E. Krause (to Universal Maschinenfabrik GmbH). USP 2 967 414, Jan. 10, 1961.
Apparatus for inserting an inlay thread in the beginning of the element being knitted and clamping the inlay at both ends so that it is automatically stretched taut by the separational movement of the clamping devices during increase of the knitted length. To prevent loop slippage, the inlay thread is provided with a roughened surface by a helically wound filament. (1260)

CIRCULAR KNITTING MACHINE. F. C. Wiesinger (to Wildman Jacquard Co.). USP 2 968 170, Jan. 17, 1961.
Dial and cylinder machine for knitting a true rib cuff and interlock fabric in a continuous manner by merely altering the cams to set up the proper needle paths. (1261)

MEANS FOR PREVENTING FORMATION OF EYELETS IN KNITTING SEAMLESS HOSIERY. G. E. Hart and H. F. Metcalf (to Carolina Knitting Mach. Corp.). USP 2 970 459, Feb. 7, 1961.
Means for controlling needles upon the introduction of auxiliary body yarn after the knitting of the welt so that the initial stitches formed are extremely tight as compared to normal and the succeeding stitches are progressively increased to normal size. (1262)

TOE CLOSURE FOR SEAMLESS HOSIERY. S. Margulies. USP 2 968 937, Jan. 24, 1961.
Bulky seams are avoided by knitting the toe pocket of finer yarn than that used for the rest of the stocking, flattening the toe end to bring the courses of finer yarn together, and stitching a seam across them. (1263)

METHOD OF SEPARATING A CONTINUOUS SERIES OF KNIT ARTICLES. R. H. Wyner (to Shawmut, Inc.). USP 2 969 580, Jan. 31, 1961.
A series of knit articles are joined together by a fusible ravel yarn and are separated by passing the string fabric over a perforated hot air drum to melt the ravel yarn. (1264)

KNITTED SWIMSUIT WITH INTEGRALLY FORMED BREAST CUPS. B. D. Gordon. USP 2 969 662, Jan. 31, 1961. (1265)

YARN CONTROLLER FOR CIRCULAR KNITTING MACHINES. P. A. Mahler and K. R. Boyer (to Singer-Fidelity, Inc.). USP 2 970 460, Feb. 7, 1961.
Mechanism mounted on dial mechanism for controlling yarn during pressoff to prevent its entry between the dial and dial cam. (1266)

CAM CONTROL MECHANISM FOR KNITTING MACHINES. K. Hoffmann (Germany). USP 2 970 461, Feb. 7, 1961.
Mechanism for accumulating the effects of several setting elements which are disposed in different positions and act simultaneously upon the control mechanism, eliminating the necessity for counter chains. (1267)

OVERPLAID ARGYLE HOSIERY. N. Levin. USP 2 970 462, Feb. 7, 1961.
The overplaid design is of the four yarn type in which each straight line extending between the center portions of a pair of adjoining areas is formed of a single yarn. (1268)

Fabrics C4

TUFTING APPARATUS. B. Lombard. BP 844 858, Aug. 17, 1960. Through BCIRA 40: 4491 (1960).
Yardage tufting machine in which each needle bar operates one needle in the line and there are at least two rows of solenoids in staggered array, each one operating one bar. (1269)

WELDING NYLON AND OTHER SYNTHETIC FIBER FABRICS BY HIGH FREQUENCY ENERGY. S. Yamaguchi. BP 845 307, Aug. 17, 1960. Through BCIRA 40: 4493 (1960).
Fabrics of the nylon, Terylene, and polyvinyl alcohol types are wetted, preferably with water containing glycerine. The water may be arranged in elongated drops for "spot welding." (1270)

ONE-PIECE, SELF-LUBRICATING GUIDE COMB FOR LEAVERS LACE MACHINES. K. W. Bahlo (to Am. Fabrics Co.). USP 2 962 924, Dec. 6, 1960. (1271)

FLOAT CUTTING MECHANISM FOR PILE FABRICS. H. T. Wright (to Derry Damask Mills). USP 2 966 174, Dec. 27, 1960.
For severing floats of ornamenting yarns in spaced crosswise rows to form pile from the floats while the fabric is being woven. (1272)

NONWOVEN FABRICS. Carl Freudenberg Komm. Ges. auf Akt. BP 845 418, Aug. 24, 1960. (Addition to BP 828 214.). Through BCIRA 40: 4800 (1960).
As in the parent invention, the fiber is impregnated with rubber latex, but heat and pressure are applied to bond the sheets together while the rubber is only partially vulcanized. (See abstr. 2949/60.) (1273)

COMPOUND FABRIC FOR REINFORCED PLASTICS. T. Ambrus. BP 845 744, Aug. 24, 1960. Through BCIRA 40: 4767 (1960).
The fabric consists in one direction of thin, widely spaced yarns (e.g. cotton), carrying an adhesive, and in the transverse direction, on one or both faces, of closely laid, thicker yarns or rovings (e.g. glass, asbestos, or nylon) that are held in place by the adhesive at the crossing points. (1274)

SELVAGE TRIMMING MACHINE. L. F. Remington (to Curtis & Marble Mach. Co.). USP 2 962 791, Dec. 6, 1960.
For cloth in which the weft has been inserted in a series of loops and in which the open ends of each loop project beyond the cloth selvage at one side edge of the cloth. (1275)

CARPET. J. V. Yana (to Waite Carpet Co.). USP 2 964 067, Dec. 13, 1960.
Composed of rag warp strands interwoven with yarn warp strands, and twisted fiber weft strands. (1276)

MULTILAYER MAT OF INTERCROSSED GLASS FIBER FILAMENTS. P. Modigliani (to Johns-Manville Corp.). USP 2 964 439, Dec. 13, 1960. (1277)

PROCESS FOR PREPARING CIGARETTE FILTERS FROM CRIMPED CELLULOSE ACETATE TOW. J. B. Stevens (to Eastman Kodak Co.). USP 2 964 440, Dec. 13, 1960. (1278)

NONWOVEN FABRIC. E. G. Goldstone (to Allen Inds.). USP 2 964 441, Dec. 13, 1960.
Upholstery padding prepared by compressing a loose nonwoven fibrous mat into a membrane of latex and allowing the latex to cure. (1279)

KNITTING MACHINE FOR HIGH PILE FABRICS. W. C. Rose (to Wildman Jacquard Co.). USP 2 964 932, Dec. 20, 1960.
Fiber stock in the form of roving is fed by a mechanism for advancing roving at a feed according to a predetermined pattern. The rovings may differ in material, texture, or color. (1280)

PILE HEIGHT CONTROL MECHANISM FOR TUFTED FABRICS. C. H. Masland, II (to C. H. Masland & Sons). USP 2 965 054, Dec. 20, 1960. (1281)

CRIMPED OLEFIN FILAMENT TOBACCO SMOKE FILTERS. G. P. Touey and R. C. Mumpower, II (to Eastman Kodak Co.). USP 2 966 157, Dec. 27, 1960. (1282)

GLASS FIBER FILAMENT GUIDE. N. E. McFadden (to Johns-Manville Fiber Glass Inc.). USP 2 967 027, Jan. 3, 1961.
For introducing filaments at regularly spaced intervals in the production of blown fiber mats. (1283)

ACID RESISTANT SPINNING BUCKET. G. M. Naul (to Westinghouse Elec. Corp.). USP 2 965 220, Dec. 20, 1960.
The bucket is composed of epoxy resin impregnated synthetic fiber fabric laminates in which the fabric is made up of a warp of continuous filaments and a weft of staple fiber yarn; the warp filaments are disposed in the laminate so that they lie in the circumferential direction of the bucket. (1284)

ELECTRICAL HEATING ELEMENT. C. J. Ford and J. L. Nisbet (to Goodyear Tire & Rubber Co.). USP 2 967 415, Jan. 10, 1961.
Electrical resistance heating element for use as an anti-icing covering for aircraft surfaces comprises a warp knit fabric in which the resistance wires are held in spaced relation by the wales of the knit fabric. (1285)

PILE FABRIC PILE WIRE ASSEMBLY. R. O. Sparling. USP 2 967 548, Jan. 10, 1961.
Unitary pile wires anchored at one end to a common floating bar, predeterminedly movable in the loom, while the other end of the wire is held in the fabric as it is being woven. The intermediate part of each pile wire moves up and down as determined by movement of its respective heddle. (1286)

PILE CARPETS. S. McKnight (to Mohasco Inds.). USP 2 967 549, Jan. 10, 1961.
Carpet in which only one pile wire is inserted for each two picks of filling and each pick of filling binds lengths of pile yarns of a single set only so that there are relatively few pile elements per unit area. Good coverage is obtained by the use of high and low tuft legs and the use of hard twist pile yarns. (1287)

METHOD AND APPARATUS FOR HEAT INSULATION. J. A. Brown. USP 2 968 068, Jan. 17, 1961.
Flexible bats of uniform density which eliminate the need of binders are claimed. (1288)

APPARATUS FOR CLEANING AND FELTING MINERAL WOOL FIBERS FOR INSULATION. E. R. Powell (to Johns-Manville Corp.). USP 2 968 069, Jan. 17, 1961. (1289)

WARP KNITTED PILE CARPETS WITH IMPROVED LONGITUDINAL STABILITY. R. R. Matthews (to Firth Carpet Co.). USP 2 968 085, Jan. 17, 1961.
Stuffer warp threads are inserted between adjacent wales immediately above the weft yarns and underneath the pile loops to prevent excessive lengthwise stretch of the fabric during the backsizing operation. (1290)

ABSORBENT SURGICAL PRODUCTS FROM CARDED, CRIMPED RAYON FIBERS. F. C. Brenner and G. J. Liloia (to Johnson & Johnson). USP 2 968 858, Jan. 24, 1961. (1291)

PAPERMAKING MACHINE SCREEN. G. Bischoff (Germany). USP 2 969 581, Jan. 31, 1961.
Screens in which at least the warp is made from synthetic filaments. (1292)

NEEDLED FELT FABRIC. D. Morgenstern. USP 2 970 365, Feb. 7, 1961.
The felt is formed by coating a fleece of fibers with a thin layer of adhesive and needling. (1293)

WARP KNIT PILE CARPET. R. S. MacCaffray, Jr. (to C. H. Masland & Sons). USP 2 968 171, Jan. 17, 1961.
Warp knit pile fabrics having many of the characteristics of multiframe Wilton carpets are produced by the use of two frames of pile yarns, one of which is more expensive and forms the pile projections and the other of which forms the laid-in binding weft. (1294)

CONTINUOUS PRODUCTION OF CORRUGATED LAMINATES. U. Monaco, O. Olona, and P. Zanaboni (to Montecatini Soc. Gen. l'Ind. Mineraria). USP 2 968 335, Jan. 17, 1961.
As the fibrous sheets are fed between sheets of cellophane into the rolls of a corrugating machine, they are sprayed on one surface with a catalyzed resin and on the other with an accelerated resin, so that the mixing of the resins takes place only after the sheet is compacted between the corrugating rolls. (1295)

GLASS FIBER REINFORCED LAMINATE WITH CRINKLED FINISH. J. S. Finger (to Johns-Manville Fiber Glass Inc.). USP 2 969 301, Jan. 24, 1961. (1296)

RIBBON RECEIVING REEL FOR USE ON SPINDLES OF DIFFERENT DIAMETERS. F. B. Goldman (to Texlon Corp.). USP 2 969 931, Jan. 31, 1961. (1297)

SYNTHETIC FIBER PAPER. J. A. Klacsmann (to E. I. du Pont de Nemours & Co.). USP 2 970 079, Jan. 31, 1961.
High mechanical strength paperlike material with resistance to abrasion, grease, and solvents is prepared by impregnating a web of acrylic fibers with an aqueous dispersion of a polymeric reaction product and surface coating the impregnated web with the polymeric reaction product and a phenol formaldehyde resin. (1298)

RADIATION SHIELDING FABRIC. W. W. Drummond (to Bjorksten Research Labs.). USP 2 971 095, Feb. 7, 1961.
Consisting of a mat of lead coated glass fibers in which the fibers are bonded together by the fusion of the lead. (1299)

FINISHING D

Chemical processes D1

APPARATUS FOR THE CONTINUOUS TREATMENT OF SYNTHETIC YARNS AND FABRICS. Etablissements S. Gerbe. BP 840 338, July 6, 1960. Through BCIRA 40: 4027 (1960).
In a process for imparting a more pleasant handle to polyamide, polyester and polyacrylonitrile yarns and goods, ultrasonic vibrations are set up in the baths through which the materials pass continuously for chemical treatment, neutralizing, and rinsing. (1300)

IMPROVING THE UTILITY AND CRIMPING INTENSITY OF REGENERATED CELLULOSE TEXTILE FIBERS. Spinnfaser AG. BP 841 401, July 13, 1960. Through BCIRA 40: 4026 (1960).
The material (e.g. lap of staple fiber, or dress fabric) is immersed for a short time in liquid ammonia. In an example, the strength of the dry fiber remained at 2.6 g/den, the wet strength rose from 1.3 to 1.52 g/den, the elongations rose from 16-23% dry, and 22-31% wet, the loop strengths were doubled, and the crimping intensity and stability were greatly enhanced. (1301)

BRIGHTENING AND BLEACHING AGENTS FOR FIBROUS MATERIALS. Badische Anilin und Soda Fabrik AG. BP 840 605, July 6, 1960. Through BCIRA 40: 4013 (1960).
The claims are for mixtures of aminocoumarins--(1) those with aliphatic groups in position 4 and (2) those with aromatic groups in this position. The yellow-green fluorescence of the latter is too strong and the former alone do not give a pure white; the mixtures do. (1302)

ANTIPILLING TREATMENT OF POLYETHYLENE TEREPHTHALATE TEXTILE MATERIAL. P. W. Eggleston, W. Glen, K. W. Hillier, and I. Marshall (to Imp. Chem. Inds. Ltd). BP 840 796, July 13, 1960.
The tendency to pilling is reduced by treating the filaments, fabrics, or garments with steam, ammonia, or methylamine so as to reduce the intrinsic viscosity of the polymer to a value of 0.45-0.28. (1303)

BIS-TRIAZINYLAMINOSTILBENE COMPOUNDS FOR USE AS BRIGHTENING AGENTS. Farbenfabriken Bayer AG. BP 841 189, July 13, 1960. Summary in BCIRA 40: 4014 (1960). (1304)

MEANS FOR WITHDRAWING STITCHING FROM A LENGTH OF TUBULAR FABRIC. J. A. Kuypers (to Tricotagefabrieken Frans Beeren en Zonen NV). BP 841 398, July 13, 1960. Through BCIRA 40: 4012 (1960).
Apparatus for withdrawing the wire used to seam together the selvages of a fabric to form a tube for wet processing. (1305)

WATER-SOLUBLE LATENT CURING CATALYSTS FOR TEXTILE TREATMENT RESINS. J. A. Moyse (to Imp. Chem. Inds. Ltd). BP 841 640, July 20, 1960. Through BCIRA 40: 4327 (1960).
The catalysts are halogeno-1:3:5-triazines. (1306)

SEALING DEVICE FOR SOLVENT-EXTRACTION PLANT. H. J. Ross (to Imp. Chem. Inds. Ltd). BP 841 868, July 20, 1960. Through BCIRA 40: 4314 (1960).
Means for preventing the escape of solvent vapor in a solvent-extraction plant in which cloth is run through a chamber occupied by a set of compartments containing solvent, vapor is condensed in a cover to the chamber and the condensate is run into the last compartment from which it overflows to the others. (1307)

WASHING MACHINE. Escher Wyss GmbH. BP 842 165, July 20, 1960. Through BCIRA 40: 4371 (1960).
Water from the mains is passed through a current of ozonized air into the goods in a perforated drum mounted in a vacuum-tight container connected to a valve-controlled vacuum pump. (1308)

FLAMEPROOFING AGENT. Farbwerke Hoechst AG. BP 842 393, July 27, 1960. Through BCIRA 40: 4340 (1960).
The agent is a mixture of highly chlorinated paraffin wax, highly chlorinated polyethylene and/or polypropylene (including a copolymer), and antimony oxide. (1309)

SOFTENERS FOR TEXTILE FIBERS. Chemische Werke Witten GmbH. BP 842 842, July 27, 1960. Through BCIRA 40: 4218 (1960).
The agents are quaternary ammonium salts mixed with one or more insoluble fatty acid alkanolamides. (1310)

RESIN FINISHING. Ciba Ltd. BP 842 402, July 27, 1960. Through BCIRA 40: 4325 (1960).
Aminoplasts can be rendered insoluble on fibrous materials (e.g. cotton yarn), without drying and baking, by adding to the solution of the partial condensate a catalyst of the type of diacetin, mono- or dichlorohydrin, glycol diacetate, the methyl or ethyl ether of glycol acetate, or diethyltartrate. (1311)

QUATERNARY AMIDE-ZINC PHENATE SALTS AS ROTPROOFING AGENTS. Chemische Werke Witten GmbH. BP 842 829, July 27, 1960. Summary in BCIRA 40: 4341 (1960). (1312)

TREATMENT OF MANMADE FIBER FABRICS FOR HAIRINESS. C. Landsman. BP 842 857, July 27, 1960. Through BCIRA 40: 4338 (1960).
Surface hairs are laid in yarns and fabrics made from heat-sensitive fibers by exposing the taut material to a narrow concentrated beam of heat rays to cause the hairs to melt or collapse, then to a solvent and finally to a device for shaving off the residues and sucking or blowing them away. (1313)

DESIZING OF CELLULOSE FABRICS. Soc. d'Etudes Chimiques pour l'Industrie et l'Agriculture. BP 843 559, Aug. 4, 1960. Through BCIRA 40: 4313 (1960).
Size is removed (from poplins and calico) by oxidation with a bromite and/or hypobromite at pH 9-10.5 and room temperature. A caustic boil is then applied. (1314)

FLAME RETARDANT POLYMERS. P. Spence & Sons Ltd. BP 844 555, Aug. 17, 1960. (Addition to BP 837 696.) Through BCIRA 40: 4547 (1960).
An antimony α-glycoxide is added to a polyester resin in a mutual solvent. The solvent is removed under reduced pressure, the residue dissolved in an ethylenic monomer (e.g. styrene), cured, and mixed with a chlorine compound. (1315)

METHOD OF PURIFYING AND BLEACHING COTTON. L. Merlo, G. Vitelli, A. Arbo, and A. Novelli (to Montecatini Soc. l'Industria Mineraria e Chimica). BP 844 699, Aug. 17, 1960. Through BCIRA 40: 4539 (1960).
The yarn or fabric is impregnated with a solution of an alkali peroxide, an alkali silicate, hydrogen peroxide and a wetting agent, left to soak for about 3-12 hr (macerated) and steamed for a period not exceeding 15 min. (1316)

PREBOARDING MACHINE. J. Barker (to J. W. Lightburn & Son Ltd). BP 844 972, Aug. 17, 1960. Through BCIRA 40: 4546 (1960).
Machine comprises a steam chamber, a pair of wheeled trays carrying forms for nylon stockings, and two tray holders having rail tracks. The holders are pivotally mounted, one on each side of the opening to the steam chamber, so that in one position the tray may be run along further rails into the chamber and in the other, tilted position the stockings can be taken off or put on the forms. (1317)

PROCESS FOR SIZING CELLULOSE FABRICS. H. Meisel (to Corn Prods. Co.). USP 2 965 518, Dec. 20, 1960.
Cationic starch derivatives, e.g. starch imino diallylcarbamate, in granule form are dispersed in cold water and the fabrics are passed through the slurry and ironed to gelatinize the size in situ. (1318)

YARN LIQUID TREATMENT APPARATUS. F. W. J. Karrer (Sweden). USP 2 959 047, Nov. 8, 1960.
Closed system in which the liquid is circulated through the material to be treated by alternately creating and breaking a vacuum and the excess liquid is removed in droplet form from air circulating through the liquid. (1319)

TREATED FABRICS. C. R. Williams (to Monsanto Chem. Co.). USP 2 959 497, Nov. 8, 1960.
A soft full hand and improved tear, abrasion, and crease resistance are imparted to plain weave fabrics by impregnation with multicomponent vinylidene interpolymer latices. (1320)

CONTINUOUS PROCESS FOR RAPIDLY BLEACHING WOVEN COTTON FABRIC. H. L. Potter and H. D. Terhune (to E. I. du Pont de Nemours & Co.). USP 2 960 383, Nov. 15, 1960.
The process consists of initially saturating the fabric in a high caustic scouring bath containing a molecularly dehydrated salt of a phosphoric acid to passivate extraneous material on the fabric and sequester impurities, rinsing to remove the caustic, and bleaching with a relatively high concentration of hydrogen peroxide. (1321)

POROUS WATER-REPELLENT FABRICS. E. Leimbacher (to Heberlein Patent Corp.). USP 2 963 381, Dec. 6, 1960.
A water-repellent coating is applied to a stretchable fabric base and the base is stretched sufficiently to rupture the film to produce a series of grooves in the film without rupturing the fabric. The grooves in the relaxed fabric are wide enough to impart air permeability but not wide enough to permit the passage of water. (1322)

FABRIC FLUID TREATMENT APPARATUS. E. Kusters (Germany). USP 2 963 893, Dec. 13, 1960.
The fabric is passed through the treatment tank over a porous drum mounted for rotational vibratory movement. (1323)

FLUID BED HEAT TREATMENT APPARATUS. J. Doleman and W. V. Morgan (to Brit. Rayon Research Assoc.). USP 2 964 852, Dec. 20, 1960.
Means for controlling the movement of the particles in a fluid bed to reduce the mechanical stresses and tension induced by the particles on the material treated. (1324)

TURBO BLOWER FOR CONVEYING GASEOUS AND LIQUID MEDIA. R. Coester (to Maschinenfabrik Benninger AG). USP 2 965 284, Dec. 20, 1960. (1325)

Dyeing and printing D2

DYEING PROCESS FOR PROTEIN AND MANMADE FIBERS. R. L. Denyer and H. R. Hadfield (to Imp. Chem. Inds. Ltd). BP 842 415, July 27, 1960. Through BCIRA 40: 4318 (1960).
Fast dyeings are achieved by treating the fibers with an aqueous solution of a heterocyclic compound containing a dihalogeno-triazine or pyrimidine group and a dye having a reactive amino group. (1326)

DYEING PROCESS FOR ACRYLONITRILE POLYMERS. Farbenfabriken Bayer AG. BP 844 822, Aug. 17, 1960. Through BCIRA 40: 4541 (1960).
Yarns and fabrics of polyacrylonitrile and related filaments are dyed with cationic dyes in the presence of quaternary ammonium compounds. (1327)

PIGMENT PRINTING. W. O. Nutt (to Keiner & Co. Ltd). BP 842 646, July 27, 1960. Through BCIRA 40: 4320 (1960).
Pigments are applied to textiles in the form of a suspension in a solution of a sodium, potassium, ammonium, or amine salt of a polymer or copolymer containing vinyl and carboxyl groups (e.g. ammonium polymethyacrylate). The particles are deposited by reducing the pH of the suspension (from above 6.5) by adding an acid salt. (1328)

PIGMENT DYEING. Ciba Ltd. BP 842 727 and 842 728, July 27, 1960. Through BCIRA 40: 4319 (1960).
The pigments are applied as cation-active emulsions of the oil-in-water type, the binding agents being heat-hardenable vinylic copolymers. (1329)

CREASE-RESISTANT FABRICS. D. A. Derret-Smith and W. Ford-Kirkpatrick (to Linen Ind. Research Assoc.). BP 842 790, July 27, 1960. Through BCIRA 40: 4322 (1960).
Prints produced on the fabric after the crease-resist finish are claimed to be superior to those obtained in the reverse order. (1330)

NONDUSTING DYE COMPOSITIONS. A. E. Ambler (to Imp. Chem. Inds. Ltd). BP 842 791, July 27, 1960. Through BCIRA 40: 4315 (1960).
Dye powders that do not give clouds of dust when handled are obtained by the addition of 0.1-2% of a polar liquid such as octadecene, dodecylbenzene, or trioctylamine. (1331)

MASS COLORATION OF ARTIFICIAL FIBERS. Sandoz Ltd. BP 843 306, Aug. 4, 1960. Through BCIRA 40: 4188 (1960).
Naphthoquinone-imine dyes are used for coloring cellulose acetate, polyvinyl chloride, polyethylene, or acrylonitrile polymers and copolymers in solution before extrusion into filaments. (1332)

TEXTILE PRINTING PROCESS. T. L. Dawson (to Imp. Chem. Inds. Ltd). BP 843 369, Aug. 4, 1960. (Addition to BP 838 339). Through BCIRA 40: 4321 (1960).
Cellulosic fabrics are impregnated with an alkali and an azoic coupling component derived from 2:3-hydroxynaphthoic acid, dried, printed with a paste containing an alkali sulfite and a dihalogeno-sym-triazine dye, dried, and developed with a diazotized amine (e.g. 4-amino-4′-methoxydiphenylamine). (1333)

DYEING MANMADE FIBERS IN THE MASS. Sandoz Ltd. BP 843 645, Aug. 4, 1960. Through BCIRA 40: 4189 (1960).
Styryl dyes free from hydroxyl groups are added to the solution or melt from which the filaments are extruded. (1334)

DYEING CELLULOSE FABRICS. Badische Anilin & Soda Fabrik AG. BP 843 720, Aug. 10, 1960. Through BCIRA 40: 4316 (1960).
A metal-complex dye is applied to the material in the presence of an acidic substance and the amine component of an aminoplast, followed by an aldehyde or compound that liberates formaldehyde when heated. The impregnated material is then baked to complete the formation of the hard resin. A leveling, wetting, water-repelling softening and/or finishing agent may also be applied, and the dyed fabric may be embossed or calendered. (1335)

PIGMENT DYEING PROCESS. A. Schmitz and W. Graulich (to Farbenfabriken Bayer AG). USP 2 956 907, Oct. 18, 1960.
Pigments are fixed under the influence of an acid catalyst by means of a fixing agent consisting of an aqueous emulsion of a vinyl copolymer, an aqueous polyacrylamide solution acting as a protective colloid, and a urea or melamine formaldehyde condensate. (1336)

Mechanical processes D3

PHOTOELECTRIC DEVICE FOR LATERAL GUIDING OF WEBS. M. Rawe (Germany). BP 841 773, July 20, 1960. Through BCIRA 40: 4334 (1960).
The sensing device includes a photoelectric cell which also gives impulses to the control mechanism that makes the correcting, lateral movements of the web roller. The sensing device is controlled by a switching mechanism that is responsive to the speed of travel of the web and is automatically actuated at predetermined intervals, the switching mechanism and the sensing device being connected to the control mechanism in series. The description relates to apparatus for winding a paper roll and one of the two drawings is a circuit diagram. (1337)

APPARATUS FOR CONTROLLING TENSION IN A RUNNING WEB. C. Aaron (to Cameron Mach. Co.). BP 843 898, Aug. 10, 1960. Summary in BCIRA 40: 4335 (1960). (1338)

APPARATUS FOR PRESHRINKING AND STEAMING TEXTILE FABRICS. Etablissements M. Heliot. BP 844 320, Aug. 10, 1960. Summary in BCIRA 40: 4336 (1960). (1339)

COMPRESSIVE SHRINKING OF FABRICS. B. E. Screeton, J. F. Sherriff, and G. C. Rogers (to Bradford Dyers' Assoc. Ltd). BP 844 452, Aug. 10, 1960. Through BCIRA 40: 4337 (1960).
In the process by which fabrics are run between a contractible belt and the surface of a heated metal roller an unwanted glaze may be imparted to the fabric. This drawback is overcome by engraving the roller with schreiner lines in the direction of travel of the fabric. (1340)

APPARATUS AND METHOD FOR PRODUCING CONTINUOUS BIAS CUT GLASS FABRIC. W. W. Evans, L. E. Oliver, and C. R. Ronnquist (to Exeter Mfg. Co.). USP 2 962 792 and 2 962 795, Dec. 6, 1960.
A continuous tube of woven glass fabric is treated with a bonding material, cut along a helical path to provide a continuous strip of bias-cut fabric, and stretched along the bias to remove wrinkles. (1341)

DEVICE FOR CUTTING TEXTILE LABELS FROM A CONTINUOUS WEB AND FOLDING OVER THE ENDS. O. Schmidt (Germany). USP 2 964 312, Dec. 13, 1960. (1342)

TENSION CONTROL FOR WEB WINDING MACHINE. L. Rockstrom (to Cameron Mach. Co.). USP 2 965 326, Dec. 20, 1960. (1343)

FABRIC CUTTING MACHINE. R. L. Sjostrom. USP 2 966 086, Dec. 27, 1960.
For cutting individual pieces, such as towels, from continuous lengths of material in which the pieces are defined by transverse bands of different thickness from the main portion of the fabric. (1344)

Drying, setting, conditioning D4

FLUID BED DRYING AND HEAT TREATMENT APPARATUS. J. Walsh (to F. Smith & Co. (Whitworth) Ltd). BP 842 505, July 27, 1960. Summary in BCIRA 40: 4344 (1960). (1345)

EXTRACTING SURPLUS MOISTURE FROM WET FABRICS. H. Haas (Germany). BP 843 806, Aug. 10, 1960. Through BCIRA 40: 4343 (1960).
The wet material (e.g. textile fabric) is run over a rotatable, perforated tube inside which is a stationary vacuum tube that has a lengthwise slot in the upper part guarded along each side by flexible material (e.g. rubber hose) that can be inflated to make an effective seal with the interior of the perforated tube. (1346)

MEANS FOR REMOVING WATER FROM RAYON CAKES OR CHEESES. Scholl AG. BP 844 554, Aug. 17, 1960. Summary in BCIRA 40: 4551 (1960). (1347)

ROTATABLE SCREEN DRYERS. H. Fleissner and G. Fleissner. BP 844 669, Aug. 17, 1960. (Addition to BP 764 266.) Through BCIRA 40: 4550 (1960).
The parent invention concerned a rotary screen drying machine (for fiber) in which a suction fan created a radial flow of drying air. A fan is mounted at each end of the drum and its diameter is at least 60% of that of the drum. (1348)

TESTING AND MEASUREMENT E

Yarns E2

APPARATUS FOR CONTINUOUSLY REGISTERING THE EXTENSIBILITY OF YARNS AND CORDS. L. A. Woolfson and S. W. Gough (to Dunlop Rubber Co. Ltd). BP 841 255, July 13, 1960. Summary in BCIRA 40: 4059 (1960). (1349)

ELECTROMECHANICAL WARP SHEET INSPECTION APPARATUS. W. M. Flook, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 967 947, Jan. 10, 1961. (1350)

Fabrics E3

PHOTOELECTRIC DEVICE FOR CONTINUOUSLY COUNTING THE NUMBER OF PICKS PER UNIT LENGTH IN TRAVELING FABRICS. H. Krantz, W. Krantz, H. Buysch, and K. Nagel. BP 838 201, June 22, 1960. Summary in BCIRA 40: 4552 (1960). (1351)

APPARATUS FOR INSPECTING STRUCTURE OF FABRICS. A. Leimer and L. Zerle (Germany). USP 2 966 593, Dec. 27, 1960.
Photoelectric apparatus for counting the picks of a woven fabric in order to automatically control the feed rolls of tenters or for automatically controlling a weft straightening machine. (1352)

ABRASION TESTING APPARATUS. I. S. Hirschhorn (to Ronson Metals Corp.). USP 2 969 669, Jan. 31, 1961.
Means for the simultaneous testing of a series of small specimens to facilitate accurate comparison of their abrasion resistance. (1353)